

FLIGHT

The
AIRCRAFT
ENGINEER
AND
AIRSHIPS

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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Flight

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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

Oct. 8-13	Light 'Plane and Glider Competitions, Lympne
Oct. 12	"Some Aspects of an Attempt to Fly Round the World," by Maj. W. T. Blake, before I.Ae.E.
Oct. 14	Beaumont Cup Race at Istres, France
Oct. 18	"The Manœuvres of Inverted Flight," by Sq.-Leader R. M. Hill, before R.Ae.S.
Oct. 26	"Three-Ply in Aircraft Construction," by Capt. R. N. Liptrot, B.A., before I.Ae.E.
Nov. 1	"Present Developments in Aircraft Instruments," by Major Wimperis, before R.Ae.S.
Nov. 9	"Soaring Flight," by Dr. E. H. Hankin, before I.Ae.E.
Nov. 15	"The Thermodynamics of Aircraft Engines," by Mr. H. R. Ricardo, before R.Ae.S.
Nov. 29	"Airmanship at Sea," by Sq.-Ldr. Maycock
Nov. 30	"The Result of Twelve Years' Welded Tube Construction and the Development of Cantilever Wings," by A. H. G. Fokker, before, I.Ae.E.
Dec. 1	Entries close for French Aero Engine Competition
Dec. 9	"Water-Cooled Aero Engines," by A. J. Rowledge, before I.Ae.E.

EDITORIAL COMMENT.



The Light 'Plane Meeting at Lympne

P to the present the weather has not been very favourable for the light 'plane competitions now being held at Lympne aerodrome, near Hythe, Kent. On the opening day—Monday, October 8—in the early morning hours there was an almost complete absence of wind, but the visibility was very poor, and several of the competitors therefore decided to wait till later before making a start. During the day the wind got up, and thus reduced both the speeds made over the course and the mileage per gallon that could be accomplished. Tuesday and Wednesday were bad as regards weather conditions, and if the machines have nevertheless done a very great amount of flying and established some excellent performances the fact emphasises all the more the capabilities of the low-power aeroplane to face adverse atmospheric conditions. Moreover, it should be remembered that in the majority of cases pilots have not had much time before the start of the competitions to become familiar with their machines, most of which were not finished until the eleventh hour. By now they have had a good deal of practice, and if the weather is at all favourable during the last three days of the week there is little doubt that some very remarkable performances may be put up.

Already one thing may be said to have been established: There is no difficulty in making light aeroplanes which will fly—and fly quite strongly—with engines of 750 c.c. capacity, or even less. The "Wrens," with their tiny 400 c.c. A.B.C. engines, fly remarkably well, and appear to have at least as large a percentage of reserve power as do some of the other machines fitted with much larger engines. They are not very fast, naturally, but even in a gusty wind they do not seem to be troubled by the "bumps," while their controllability is good, even at very low speeds. More one could scarcely ask from machines fitted with engines of a nominal $3\frac{1}{2}$ horse-power.

Next to the generally excellent manœuvrability of the light 'planes, and the absence of that appearance

of being under-powered which one associates with the low-power aeroplanes of the days before the War, perhaps the greatest surprise, up to the present, has been provided by the extraordinary mileage-per-gallon figure attained by No. 17, one of the A.N.E.C. monoplanes. It was generally thought that, given a calm day, the "Wrens" would be almost impossible to beat by machines fitted with larger engines. When Longton established his first "record," on Monday morning, of 80.3 miles per gallon, there were many who considered that this figure would not be equalled, let alone beaten, by any of the other types. Nevertheless, later on the same day James on the A.N.E.C. increased the figure to 87.5 miles per gallon, while Longton himself improved his previous figure by covering 85.9 miles on one gallon. Thus it looks as if we may still hope to see the keenest competition for first place in the economy flying, a fact which is all to the good, as it adds tremendously to the interest in the meeting.

During the first three days of the meeting no very remarkable speed "records" were established, the weather being most unsuited for speed tests, and some of the fastest machines not having been ready to commence work. If the last three days provide reasonably good weather, some quite fast speeds will undoubtedly be attained over the course.

From the practical point of view not the least valuable side of the competitions is the total mileage "lapping." The minimum stipulated (400 miles) has already been far exceeded, and there seems to be little doubt that before the close of the meeting the 1,000 miles figure will have been passed. When it is remembered that the engines used are motor-cycle engines not normally called upon for such strenuous work, it augurs well for the future of low-power flying. It cannot be claimed that the cycle engine is the ideal one for light aeroplanes, but it has at any rate demonstrated that the power of a 750 c.c. engine is sufficient for single-seaters, while even the relatively

high weight/power ratio of the cycle engine is not prohibitive. When, therefore, we come presently to use engines specially designed for light aeroplanes the reliability as well as the performance should be even better. It is not difficult to foresee that with, for instance, an engine like the Bristol "Cherub," which is already an accepted aero engine with its airworthiness certificate which entitles it to be used for cross-country flying, it will be possible to design a two-seater that will be proportionately as economical as the present single-seaters, and which will have quite a reasonable margin of power, and sufficient speed to make cross-country flying possible even in fairly high winds.

Another thing that appears to have been established already by the flying at Lympne is that forced landings on these lightly-loaded machines should not present any great dangers. Capt. Cockerell, on the Vickers "Viget" made a perfect landing in very difficult country, his engine having broken a rocker. There is thus reason to believe that, in the future, forced landings during cross-country flights need not be regarded as risky manœuvres, or happenings to disturb the pilot. It may be argued that the difficulty will be to get out of small fields. While this is true, it should be remembered that once the forced landing is safely effected the worst that can happen is that the machine may have to "fold its wings" and take to the road for a time before being able to rise in the air again. In the event of the landing itself being unduly abrupt, then naturally there may be more than a question merely of delay.

The economy of low-power flying has been demonstrated. The problems that yet remain to be solved are mainly those of first cost of machines, and "fool-proof" qualities that will enable almost anyone to handle a light aeroplane. We are hopeful that both problems will be solved within a relatively short space of time. The attitude of the Air Ministry will have a considerable bearing on the subject,

CAMBRIDGE UNIVERSITY

We give below the programme of lectures to be read before the C.U.Ae.S. during the Michaelmas Term, 1923, commencing on October 17. The President of the Society for 1923-24 is A. E. Woodward Nutt (Gonville and Caius College).

- Oct. 17.—Mr. F. Handley Page, C.B.E., F.R.Ae.S.: "Commercial Aviation."
 „ 24.—Mr. E. C. Gordon England, A.F.R.Ae.S.: "Gliders of the Past and Present."
 „ 31.—Mr. J. D. North, F.R.Ae.S.: "Science and Art in Aviation."
 Nov. 7.—Admiral Mark Kerr, C.B., M.V.O.: "The Air and the Empire in Peace and War."

Colonel Moore-Brabazon for Ministry of Transport

LIEUT.-COL. J. T. C. MOORE-BRABAZON, M.P., has been appointed Parliamentary Secretary to the Ministry of Transport, in succession to Colonel W. Ashley, M.P., who is now Under-Secretary of State for War.

The Pulitzer Trophy

FROM reports so far to hand the winner of this year's Pulitzer Trophy Race, which was flown on Saturday, October 6, at St. Louis, was won by Lieut. J. A. Williams of the U.S. Navy. He was flying a Curtiss R.2 C.1, fitted with a Curtiss 460 h.p. C.D.12 engine, and covered the 200 km. (124.28 miles) in 30 mins. 36 secs.—a speed of 243.67 m.p.h. Lieut. Brow, also of the U.S. Navy, was second on a similar machine, with a speed of 241.78 m.p.h.

AERONAUTICAL SOCIETY

- Nov. 14.—Sq./Ldr. G. S. Trewin, A.F.C.: "Aircraft Co-operation with the Fleet."
 „ 21.—Major-General Sir W. Sefton Brancker, K.C.B., A.F.C., Director of Civil Aviation: "Air Transport."
 „ 28.—Captain W. H. Sayers, M.I.Ae.E.: "The Theory of Flight."
 Dec. 5.—Major H. E. Wimpey, O.B.E.: "Some Aeronautical Problems."

All meetings commence at 8.30 p.m. Further particulars will be found in the weekly notices.

BASIL B. HENDERSON,
 Hon. Sec. (Gonville and Caius College)

Gunlayers for Aeroplanes

THE Admiralty is calling for a limited number of volunteers from the wireless branch for duty as operators and to assist naval gunnery observer officers carried in aeroplanes working with the Fleet. Accepted candidates will be required to undergo a course of training in aerial gunnery. They will receive extra pay of 1s. a day during training, and thereafter at 2s. a day continuously while detailed for aerial duties.

H.M. Aircraft-Carrier "Eagle"

THE aircraft-carrier "Eagle" (Capt. Lionel G. Preston, C.B.) has just been completed at Portsmouth Dockyard, and it is expected that she will relieve the aircraft-carrier "Pegasus" for duties with the Mediterranean Fleet. The "Eagle" was originally laid down as the "Almirante Cochrane" battleship for Chile by Messrs. Armstrong.

WINNERS OF THE FRENCH "GRAND PRIX"

Two New Types of Farman Four-Engined Aeroplanes

As recorded in our issue of September 27, 1923, the French "Grand Prix" for commercial aeroplanes, which finished on September 24 last, resulted in first and second places being secured by Farman machines, the Blériot four-engined biplane obtaining third place.

The Farman four-engined monoplane is the first machine of its type to be designed and built in France. In a measure the design may be said to be influenced by the German designers of multi-engined aircraft, although the resemblance is by no means strong enough to justify the use of the word "copying." In fact, but for certain features which are reminiscent of Dornier practice, the Farman monoplane is of entirely original conception, both as regards its general lay-out and in the matter of detail design.

are placed in the nose, in slightly staggered seats, and as there is nothing ahead of them to obstruct the view they probably are able to see in all directions that matter.

The four Hispano-Suiza engines are neatly cowled-in, the absence of nacelle radiators enabling the cowling to be carried right around the front of the engines. Lamblin radiators of the latest type are fitted on the struts that run from the engines to the top longeron of the fuselage. This type of radiator may now be said to have passed the experimental stage, and is beginning to be fitted on a number of French machines.

The undercarriage of the Farman monoplane is of very simple type, consisting of a plain Vee under each engine, braced laterally by a bent axle pivoted to the centre of the fuselage.



THE FARMAN F.3 X : This four-engined monoplane secured first place in the French "Grand Prix."

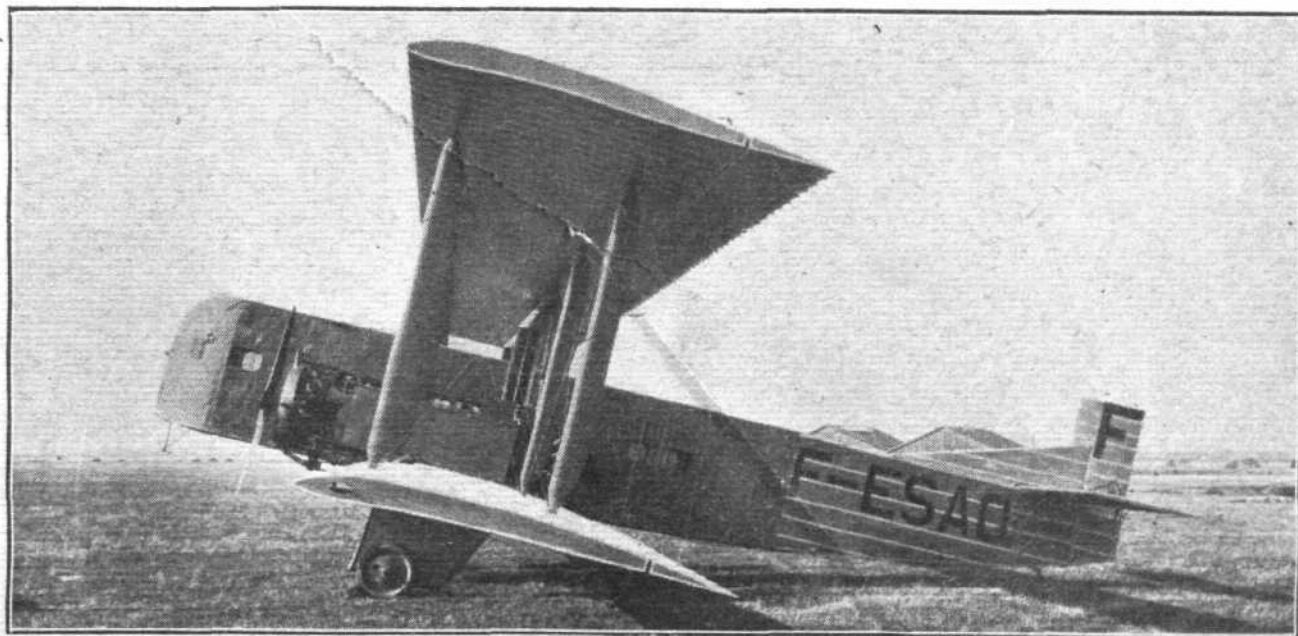
Broadly, the Farman "Grand Prix" winner is a thick-wing, braced monoplane with the four 180 h.p. Hispano-Suiza engines placed in pairs on short wing roots projecting from the bottom of the fuselage. The main plane rests on top of the fuselage, and is braced on each side by two pairs of struts, one of which runs from the engines to the root of the wing on the top longerons, while the other pair slopes outward from the engine bearers to the wing spars. The monoplane wing is of very large chord, and has a pronounced taper both in thickness and chord. Ailerons of high aspect ratio are fitted, and it will be noticed that they are not balanced in spite of the large size.

The fuselage is of rectangular section, and does not project very far ahead of the leading edge of the wing. The pilots

The Farman F.3X has an overall length of 14 metres (45 ft. 11 ins.), and a span of 19 metres (62 ft. 4 ins.). The wing area is 81 sq. m. (872 sq. ft.), and the weight empty is 3,000 kgs. (6,600 lbs.).

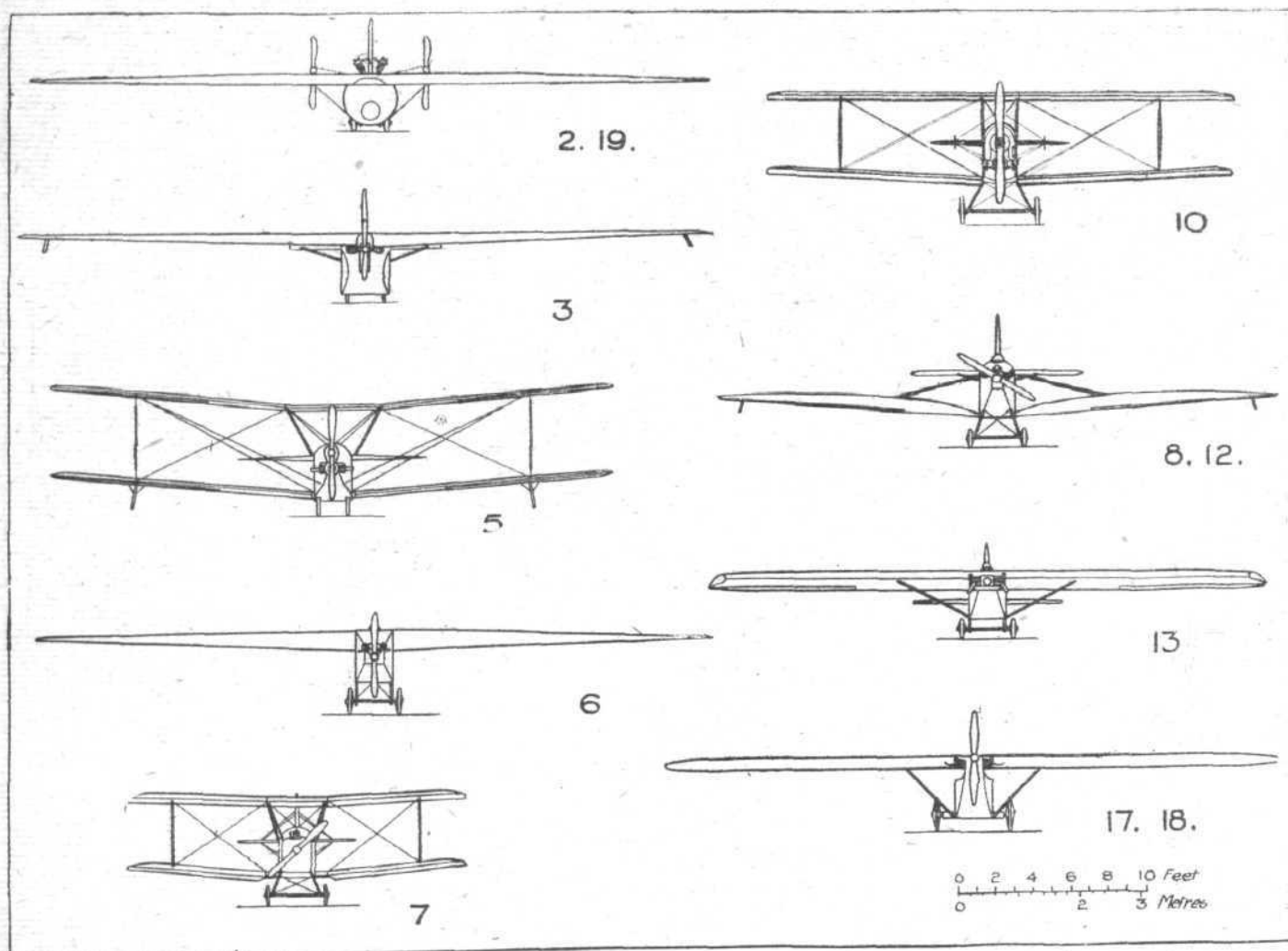
In the "Grand Prix" the F.3X was piloted by Coupet, who had with him as second pilot Landry, one of the Farman pilots from the establishment at Toussus-le-Noble.

The four-engined Farman biplane that secured second place is very similar to the familiar "Goliath," but is fitted with four Salmson engines of 260 h.p. each. In the competition the pilots were Bossoutrot and Drouhin. The length of the Farman F.4S is 14.8 m. (48 ft. 6 ins.) and the span 25.55 m. (83 ft. 10 ins.). The wing area is 139 sq. m. (1,496 sq. ft.) and the empty weight 3,220 kgs. (7,084 lbs.).

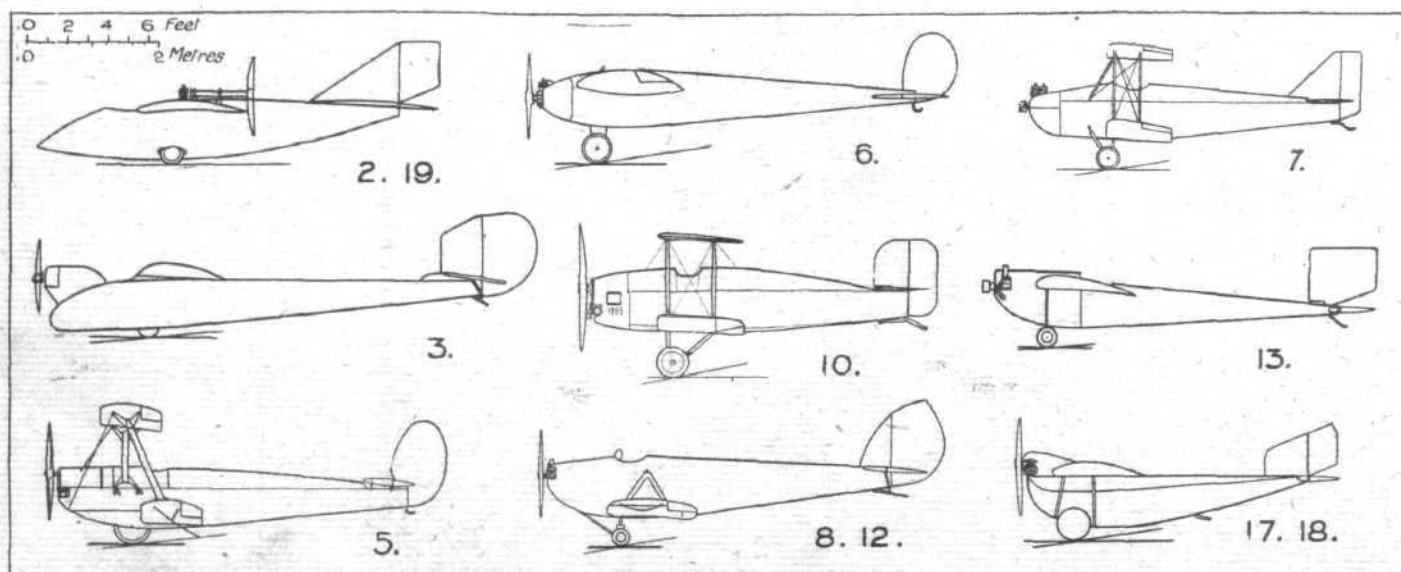


THE FARMAN F.4 S : A Goliath in its general lines, this machine has four Salmson engines. It obtained second place in the "Grand Prix."

THE LIGHT 'PLANE MEETING AT LYMPNE

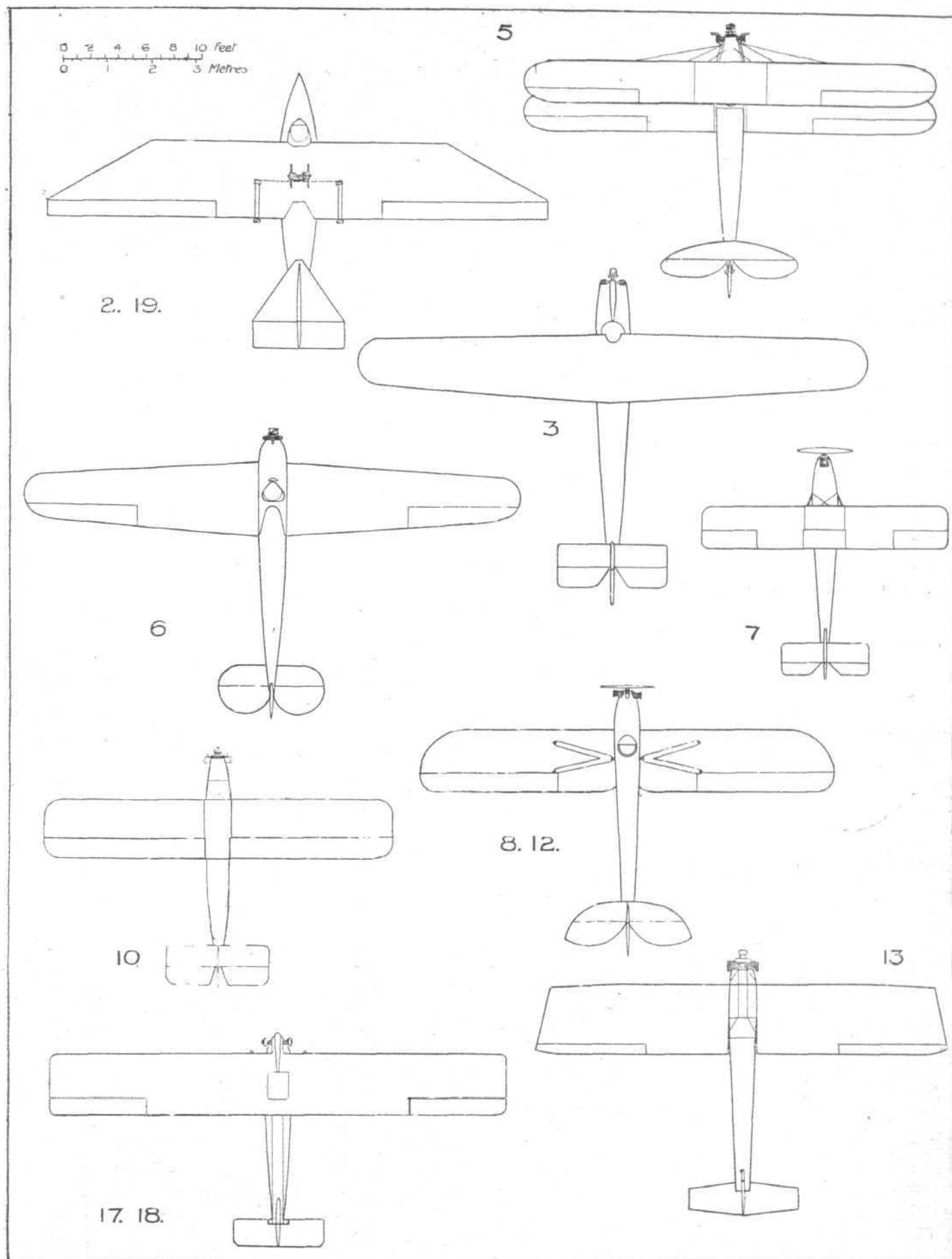


THE LIGHT 'PLANE COMPETITIONS : Front elevations, to a uniform scale, of some of the machines.

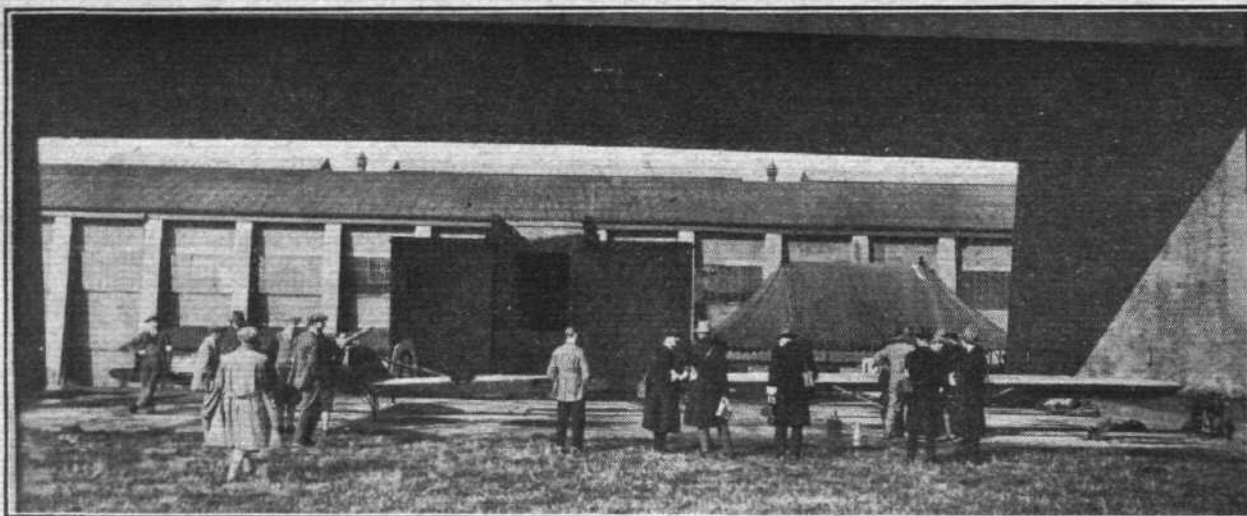


THE LIGHT 'PLANE COMPETITIONS : Side elevations, to a uniform scale, of some of the machines.

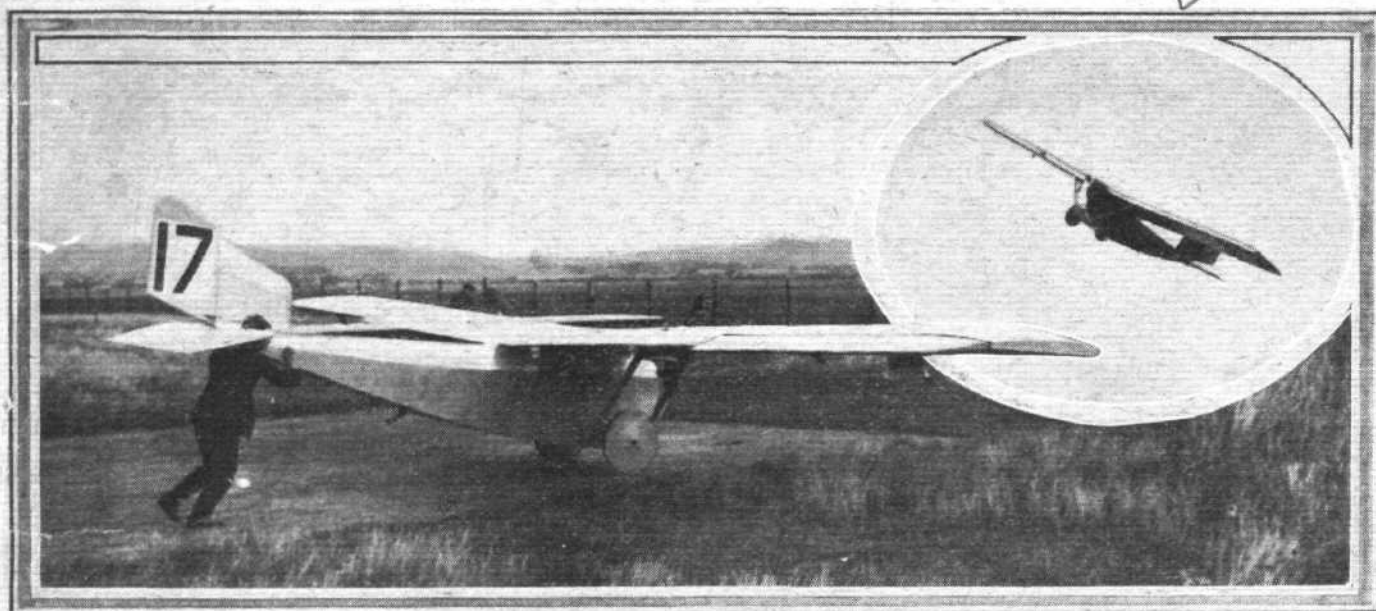
THE LIGHT 'PLANE MEETING AT LYMPNE



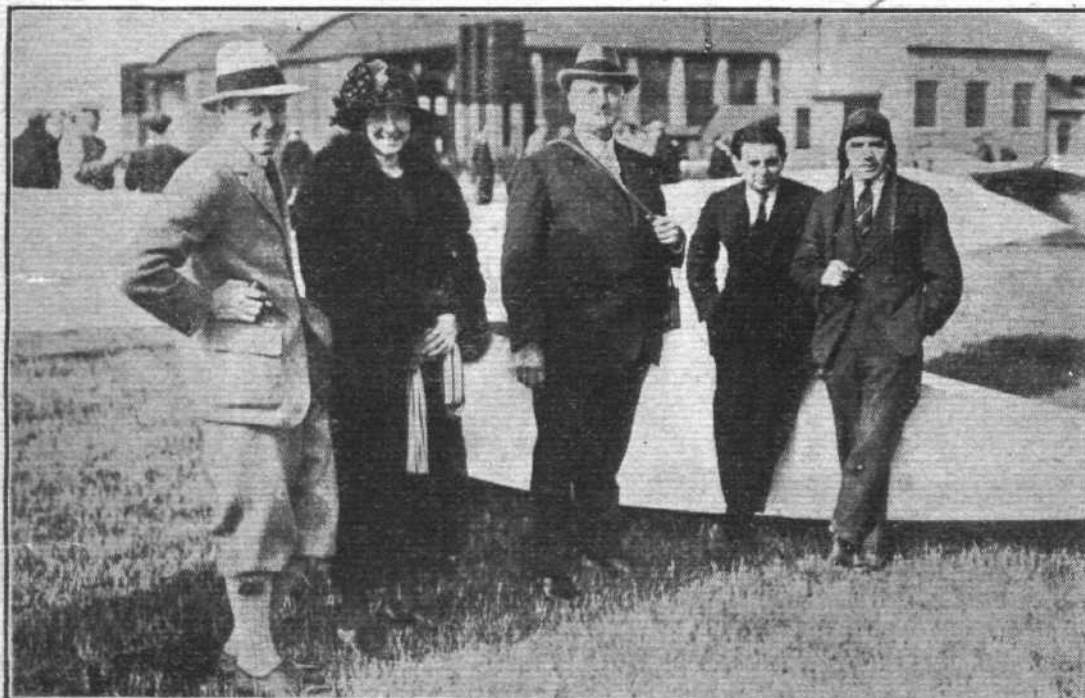
THE LIGHT 'PLANE COMPETITIONS : Plan views, to a uniform scale, of some of the machines.



LIGHT PLANE COMPETITIONS : The official "shed." No. 8, one of the de Havilland machines, and No. 13, the Handasyde monoplane, in the shed ready for filling up.



No. 17, the A.N.E.C. Monoplane : James wheeling his machine out before a flight, and, inset, a typically banked turn.



Members of the A.N.E.C. contingent at Lympne : From left to right, Mr. and Mrs. Shackleton, Dr. Hope, Mr. James, and Mr. Piercey. "The Doctor" has taken a week's holiday, and is spending it at Lympne, where he has volunteered his services, should they be required.

FLIGHT



Longton wheeling out his "Wren" at Lympne. Inset, "listening" to his engine.

The Light 'Plane Competitions at Lympne

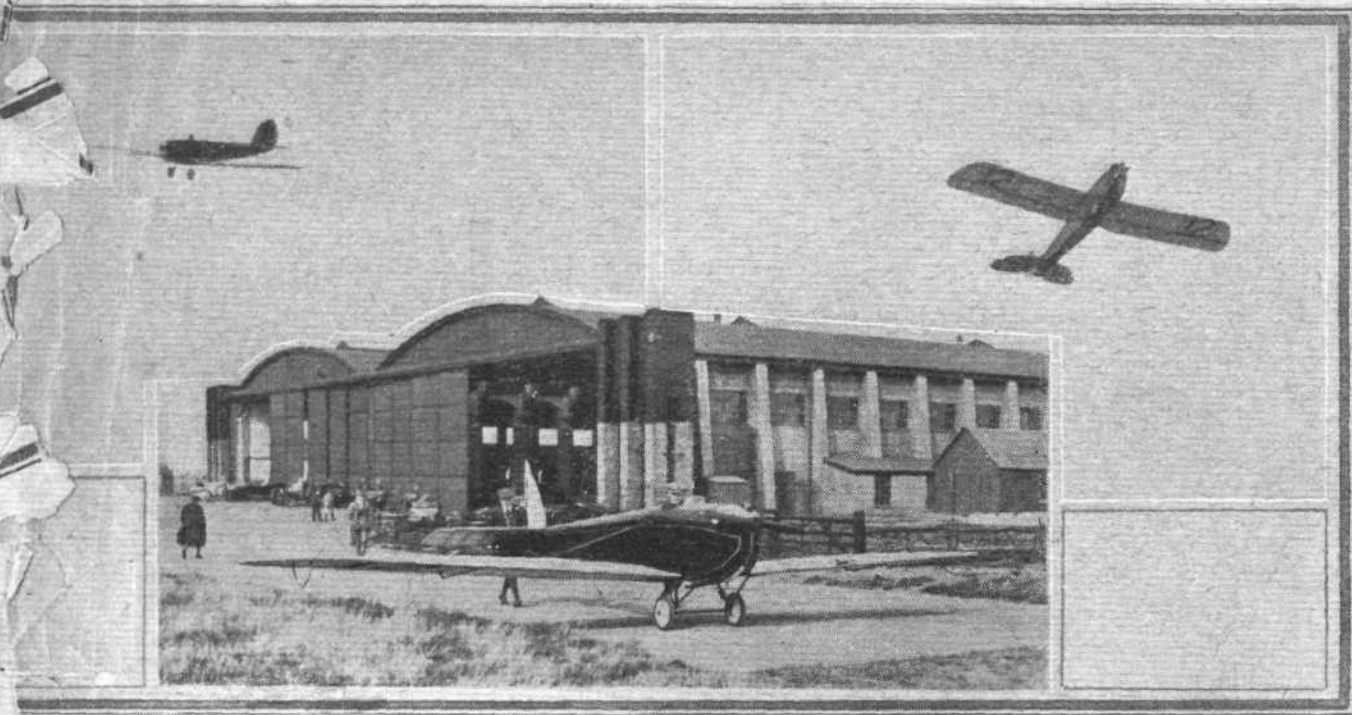
THE "Transport Tests" which require to be passed before machines are allowed to take part in the competitions for light 'planes now being held at Lympne aerodrome, near Hythe, Kent, have been successfully negotiated by all the machines that had actually arrived when this week's issue of FLIGHT went to press. The tests are not over strenuous, as competitors are allowed three hours in which to dismantle their machines, wheel them through a gateway and along a country road for a distance of one mile. The fact that no special award is being made for quickness of dismantling and erecting has resulted in some of the competitors not having troubled very much to study this feature, although several of the machines entered have been designed with folding wings

that allow of changing from the fully erected condition in a couple of minutes or so. This was approached might, we think, have been attached to this feature. Wright's one of considerable practical value to the machine, made out single-handed. Macmillan.

Several competitors were on the spot on Saturday, and week, and managed to get through the transport engine that day, being then free to carry out experiments in tuning engines, etc., on Sunday, in preparation for, spite start of the light 'plane meeting on Monday. Others arrived too late to get through the transport couple of Saturday, and to help matters along they were



"WEIGHED AND FOUND WANTING": Flight Lieut. Longton being weighed at Lympne by Mr. Ho Wright. Capt. Goodman-Crouch and Commander Perrin are interested spectators. On the right is seen P- Low pouring a measured quantity of petrol into Longton's tank.



DE HAVILLAND MONOPLANES : The lower photograph shows Major Hemming wheeling out No. 12 (a II") for a flight at Lypnpe. This machine is known as the "Hemming-Bird," while the second de and is called the "Humming-Bird." The upper pictures show No. 8 in flight, piloted by Capt. de Havilland, and No. 12, piloted by Major Hemming.

is to go through the tests on Sunday. A few there did not arrive in time to do anything on Sunday, frequently had to spend part of the days that were free for actual flying in passing the transport test, at the time of writing, there are a few machines not yet arrived at Lympne, but no doubt by the week's issue of FLIGHT is in the hands of our readers. Practically all, of the 28 machines entered will have

The procedure of weighing the pilots (whose weight was made up to the "standard" weight of 186 lb.), weighing the fuel, and so forth necessarily takes some time, and it was decided to draw lots for the order of starting. This was subsequently done, and Flight Lieut. Longton, who is No. "Wren" No. 4, was lucky enough to draw first.

Monday morning, October 8, the weather was dull, visibility and low clouds. Nevertheless, at 7 a.m. official starting time each day, Longton was ready, and about 8 minutes past 7 he took off and swung over the starting line. There was but little wind at the time starting, but gradually the wind freshened and the visibility improved, although low clouds repeatedly blotted

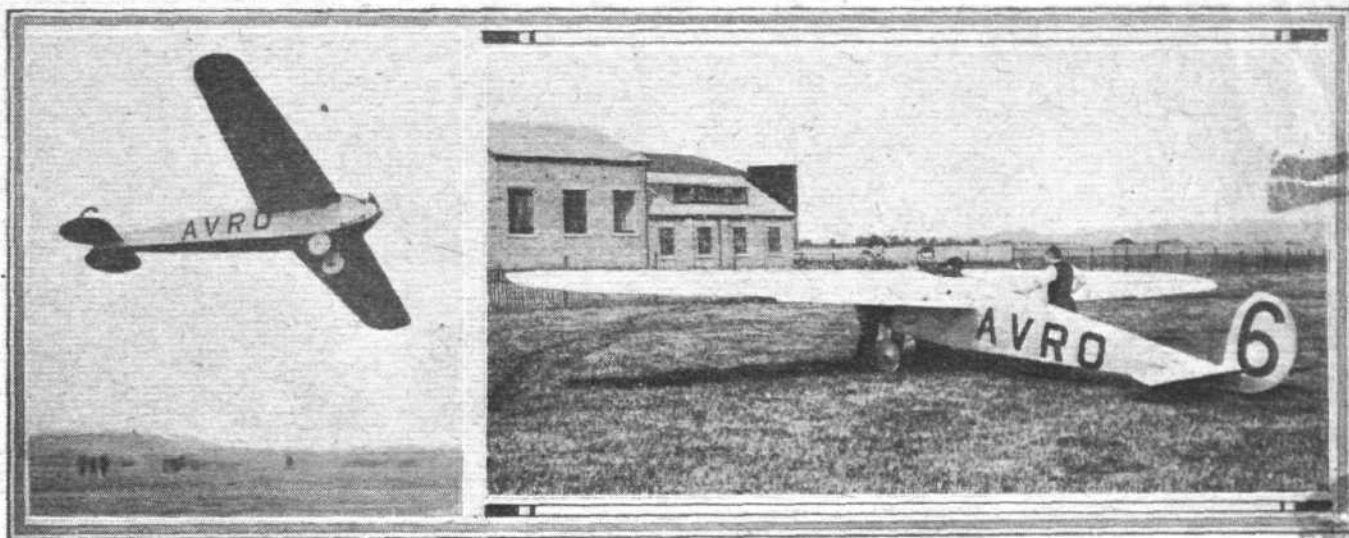
out from sight the two turning points at Postling and South Hill. The "Wren" appeared to fly very strongly, although the tiny A.B.C. engine was obviously throttled down to give low consumption, and the gusts did not seem to worry her to anything like the extent one would expect from a machine with such light wing loading.

No sooner had Longton started than the majority of the other competitors followed, in the order decided the night before. The A.N.E.C. monoplanes, piloted by James and Piercey respectively, did a number of laps, the former doing two to test the speed of the machine. His average worked out at 66.5 m.p.h., which, although good is by no means the maximum of which the machine is capable. The wind getting up reduced the speed of the machines considerably, and naturally also reduced the mileage per gallon. No. 3, the "Wren," piloted by Major Wright, also commenced an "economy" test.

The two de Havilland monoplanes, No. 8 (The Humming-Bird) and No. 12 (The " Hemming-Bird "), were also busy in the morning cruising over the course at reduced speed in the mileage-per-gallon competitions. Later on it was found that they had been doing 50.8 and 50 miles per gallon respectively, and so, as the conditions were not very favour-

Capt. Geoffrey de Havilland and Capt. Broad taking a rest while their machines are being replenished.





AT LYMPNE : No. 6, the Avro monoplane, 700 c.c. Blackburne engine, on the ground and in flight. This machine flies remarkably smoothly.

able for economical flying, it was decided to go for laps. Capt. de Havilland and Capt. Broad took turns on No. 8, while Major Hemming continued on No. 12, piling up lap after lap, and only staying on the ground long enough to fill up with petrol. By evening Major Hemming had covered 24 circuits of the 12½ miles' course, giving a total distance of 300 miles, covered in something like 6 hours' flying time. His Douglas motor-cycle engine did not appear to give any trouble whatever.

Raynham, on his Handasyde monoplane with Douglas engine, made an attempt on the economy prizes, and managed to attain the very creditable mileage of 65.7 miles per gallon. His machine, No. 13, flies very strongly and smoothly, and needless to say is well handled. In the afternoon Raynham was busy tinkering with his engine, changing his propeller, etc.

Captain Cockerell, on No. 10, the Vickers "Viget," did several circuits, but a broken rocker caused him to make a forced landing in a field. The machine was, however, undamaged, and later in the day was brought back to the aerodrome.

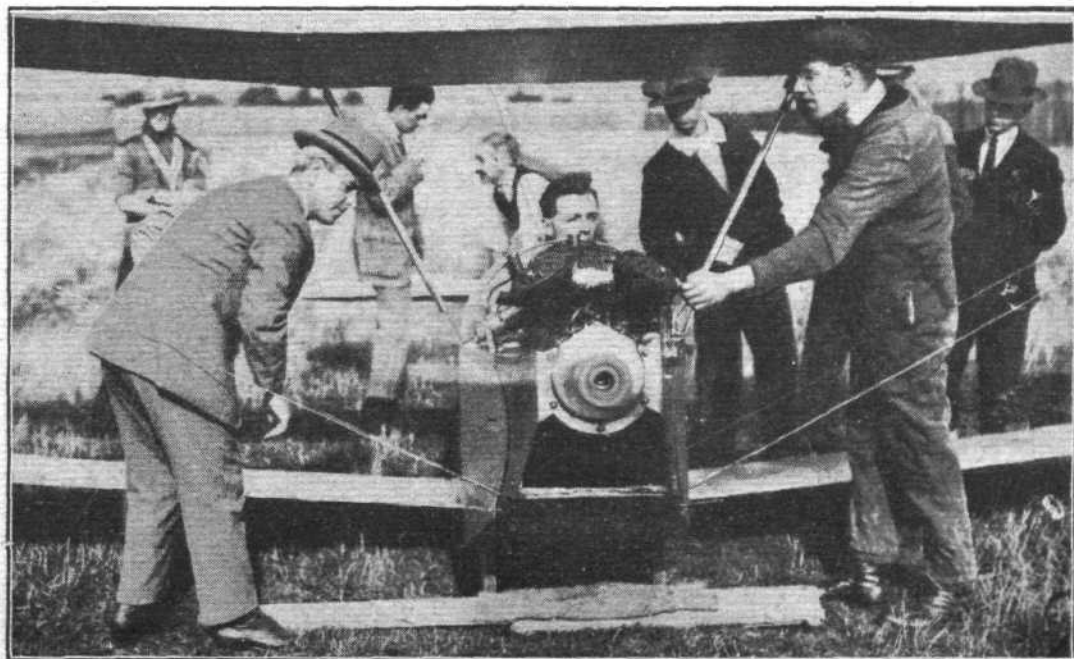
The Avro monoplane, No. 6, piloted by Bert Hinkler, did a great number of laps, partly in the economy competitions, and partly by way of piling up totals. It is not always easy to know for what particular prize the various machines are

flying at any time, and, as one wag put it, "sometimes they laps and economises, and sometimes they just laps." The Avro monoplane came in for very favourable comment on account of her steady flying. This is probably due to the old Avro principle of high aspect ratio and long fuselage, giving good tail control. The Blackburne engine appeared to be running well, but trouble was experienced with inlet valve stems, which had not, apparently, been sufficiently hardened, and kept wearing away. Later on one of the rockers itself began to wear flat. Nevertheless, Hinkler kept pegging away piling up laps.

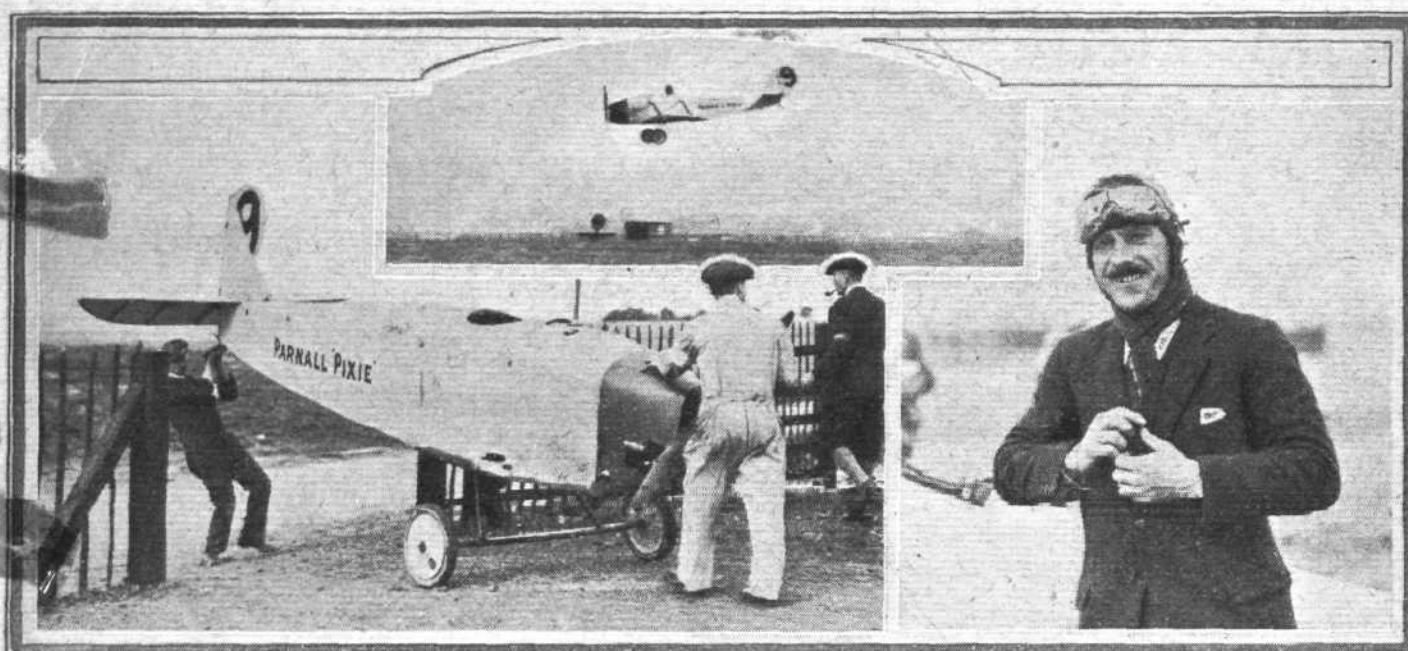
After lunch it was announced that Lieut. Longton's consumption had worked out at 80.3 miles per gallon. This was considered extremely good, and there were those who were inclined to think that this figure would not be approached by any of the machines with larger engines. Major Wright's mileage was 71.8 m.p.g.

The Parnall "Pixie I," with 500 c.c. Douglas engine, made a number of flights, piloted by Capt. Norman Macmillan. This particular engine has an extraordinarily fine note, and seems to run as beautifully as it is possible for any engine to run. This machine is a low-wing monoplane, somewhat similar to the de Havillands, and flies very strongly in spite of its low power.

No. 19, one of the Gnosspeilus "Gulls," made a couple of



Mr. A. V. Roe is interested in the running of the B. and H. engine on the Avro biplane, No. 5.



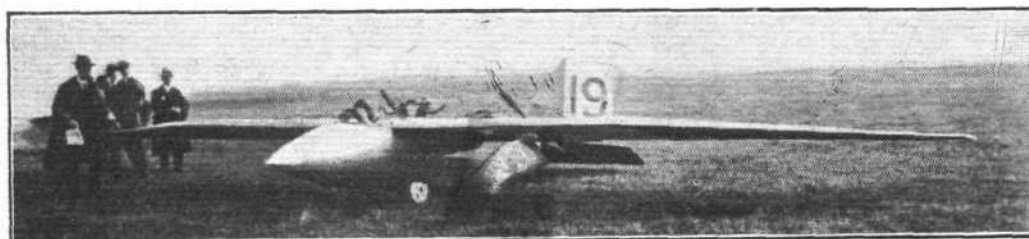
No. 9, the Parnall "Pixie I," at Lympne, being wheeled through a gate in the transport test : On the right, Capt. Macmillan, "Pixie's" pilot. Inset, the machine coming in to land.

test flights, but not in the competitions. One of these flights was made by Parker to test the machine, and later in the day she was taken up by Rex Stocken, who is flying her in the competitions. At a distance, and seen from the side, this machine looks curiously like a flying boat.

In the afternoon a mishap befell No. 18, the A.N.E.C.

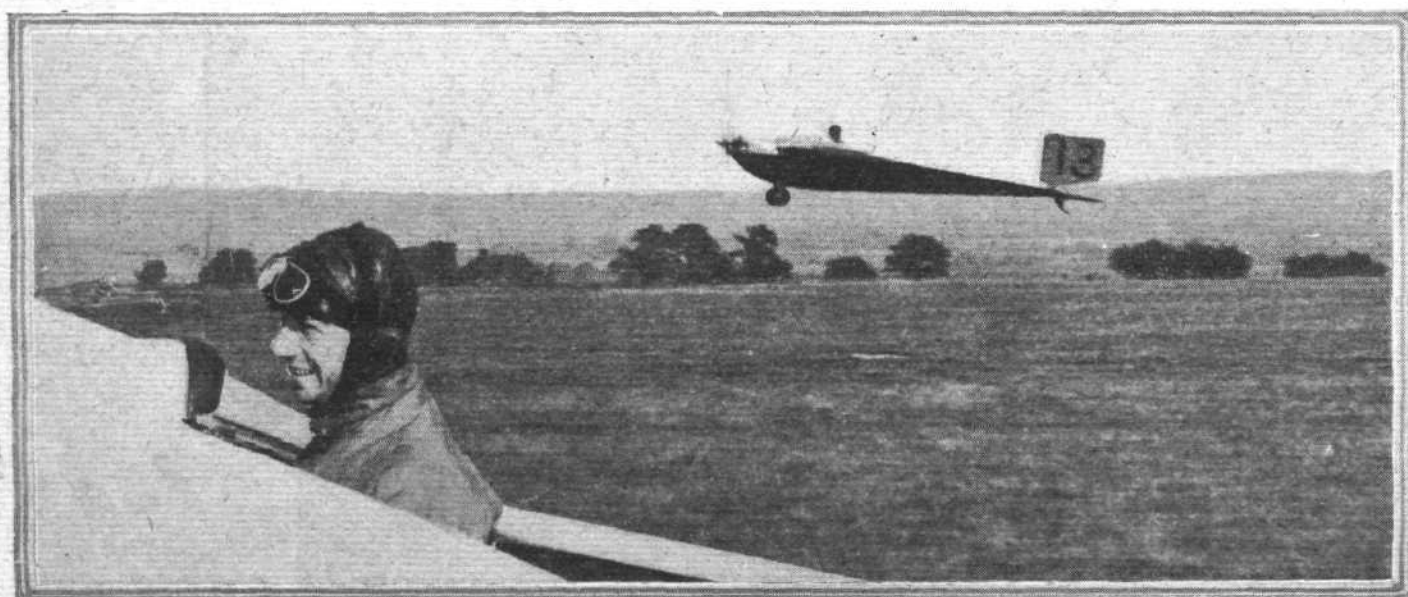
distance of 87.5 miles per gallon. "Jimmy" landed after having covered seven laps of the course, thinking that he had used more than one gallon. Actually it was found that he had used less, but as this is counted as a complete gallon his mileage worked out as stated. Actually he must have covered over 90 miles per gallon. Those who had thought the

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 ○ At Lympne:
 ○ No. 19, the
 ○ Gnosspeilus
 ○ "Gull," coming
 ○ in after a flight.
 ○
 ○ ○ ○ ○ ○ ○ ○ ○

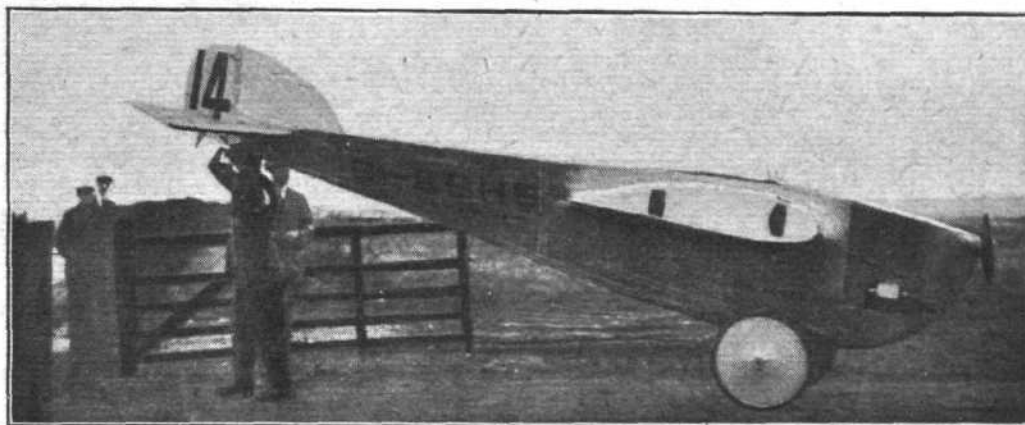


monoplane entered by Mr. Blundell and piloted by Mr. Piercy. While running the engine on the ground one of the cylinders cracked, putting a stop to any further flying that day. In the meantime, the second A.N.E.C., No. 17, was being flown by James, who, to everyone's surprise, managed to beat Longton's performance of the morning by covering a

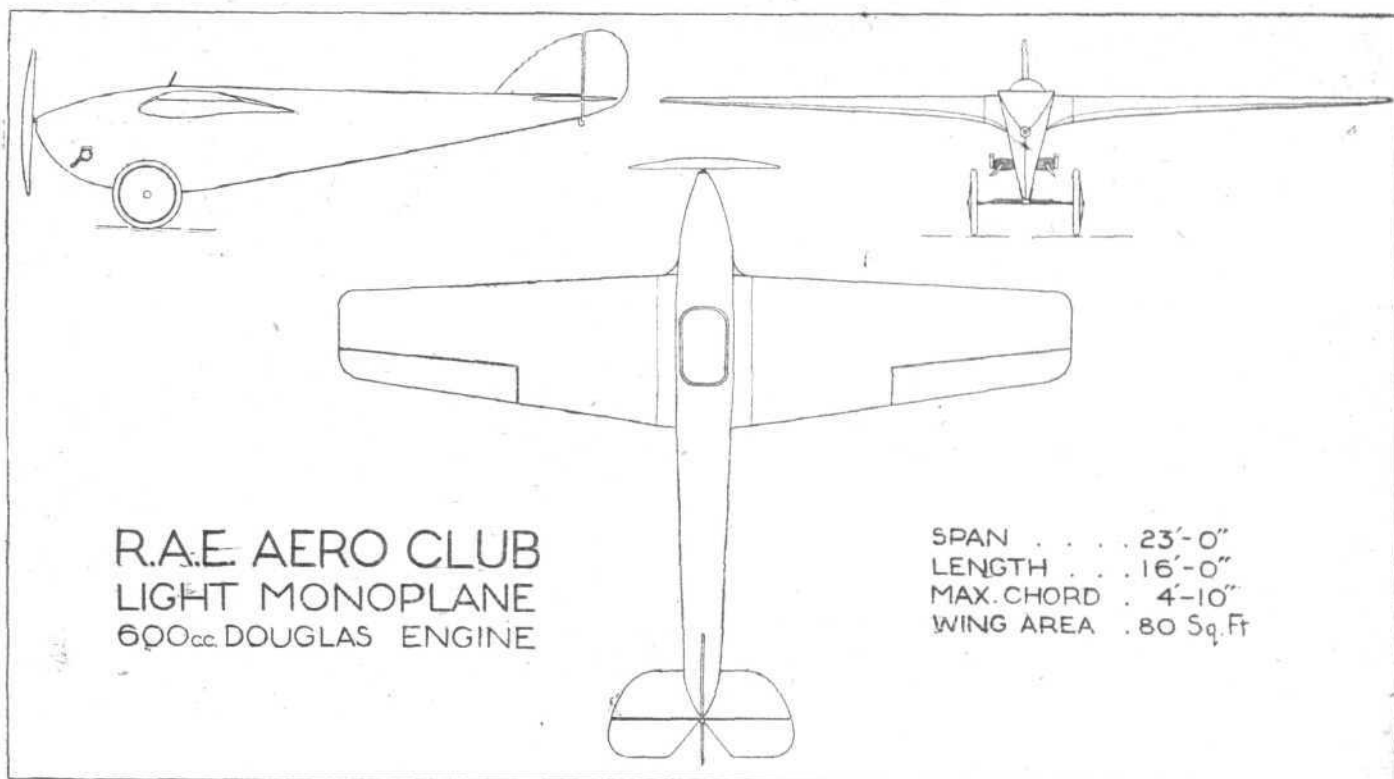
"Wren's" performance unbeatable by the machines with larger engines had to change their minds quickly, and "Jimmy's" feat caused added interest in the meeting, as it now seems as if there may be some very close contests for the economy prizes among most of the machines entered. In the afternoon Lieut. Longton went up again in No. 4



The Handasyde Light Monoplane : On the left Raynham in the cockpit of his machine, and on the right taking off.



At Lympne : No. 14, the R.A.E. Aero Club's monoplane, the "Hurricane," being wheeled through a gate in the transport test.



No. 14, the R.A.E. Aero Club's Monoplane "The Hurricane." General arrangement drawings.

"Wren," and improved the morning's performance by covering 85.9 miles per gallon. This was not, however, sufficient to beat James's figure of 87.5 m.p.g.

Towards evening Captain Hamersley brought out the Avro biplane (No. 11) with 500 c.c. Douglas engine, and commenced to try for altitude "records," for which a prize of £100 has been offered by Sir Charles Wakefield. The machine climbed steadily until it was a mere speck in the evening sky.

When Hamersley landed it was found that his sealed barograph registered 6,600 ft. This figure will probably be corrected to something a little lower, but nevertheless the performance was a very fine one.

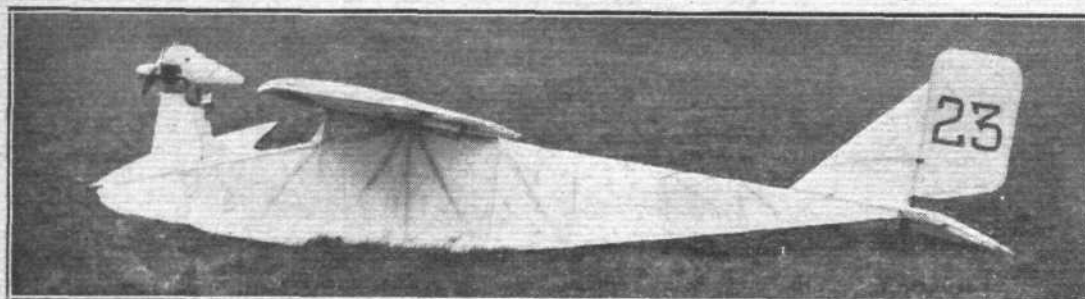
During the day the two Poncelet light monoplanes arrived and were erected. They are almost identical, and are fitted with four-cylinder Sergeant engines. No. 16 is to be piloted by Baron de Lettenhove, and No. 21 by M. Victor Simonet. The former machine made a short test flight in the evening. M. Maneyrol, who is to pilot the Peyret machines, arrived during the day, and his machine a little later, but no flights were made during Monday.

The monoplane designed and built by members of the Royal Aircraft Establishment Aero Club at Farnborough, and known as the "Hurricane," was erected during Monday, but not in time to be flown in the speed competition for the Abdulla Prize.

The Gloucestershire Aircraft Company's "Gannet" biplane had not yet arrived at Lympne on Monday afternoon, but was thought to be on its way. The three Sayers-Handley Page monoplanes were "incessantly expected," as the French say, but did not, so far as we know, turn up on Monday.



OFFICIALS AT LYMPNE : Lord Edward Grosvenor and Colonel Darby watching the flying.



The Sayers-Handley Page monoplane, No. 23: This machine is generally similar to the S.C.W. glider built for Itford last year, but is fitted with a 500 c.c. Douglas engine.

The Prizes.

Full particulars relating to the various prizes for which the machines are competing at Lympne have already been published in *FLIGHT*. It may be of assistance, however, to recall briefly the main points.

The Duke of Sutherland's Prize of £500 and the *Daily Mail* Prize of £1,000 are both offered for the greatest distance covered on one gallon of fuel. The former is confined to British pilots on British machines, while the latter is open to the world. The course in this and in all the other competitions at Lympne is a triangular one 12½ miles in length. Competitors are allowed to fill their tanks quite full, and then fly a certain number of circuits, until they judge that they have used more than one gallon. On landing their tanks are replenished,

of the course during the period of the competitions. These two prizes are confined to British pilots on British machines.

Sir Charles Wakefield has offered a Prize of £100 for the machine which attains the greatest altitude. At the moment of writing the details of the rules governing this competition have not been settled.

The Machines.

The majority of the light aeroplanes entered for the Lympne competitions have previously been described in detail and illustrated in *FLIGHT*. In the following notes we give, for the convenience of our readers, a brief reference to the various types, stating in brackets the date on which the detailed description (where one has been published) appeared. In order to facilitate reference, the machines will be dealt with

The Sayers-Handley Page monoplane, No. 25: This photograph, taken at the Handley Page works some days ago, shows the machine without engine. An A.B.C. will be fitted. In the background may be seen the third monoplane, No. 26.



the amount put in being carefully measured so as to give an exact indication of the amount of fuel used during the flight. If more than one gallon has been consumed the mileage is worked out *pro rata*. If less than one gallon has been consumed the competitor is judged to have used a whole gallon, his mileage suffering accordingly.

The Abdulla Prize of £500 is open to the world, and is to be awarded for the greatest speed over two laps of the circuit. In this competition there is no restriction on fuel consumption, and competitors may make as many attempts as they wish, and whenever they wish.

The Prize of £150 offered by the Society of Motor Manufacturers and Traders, and that of £150 offered by the British Cycle and Motor Cycle Manufacturers' and Traders' Union, are both offered for the greatest number of completed circuits

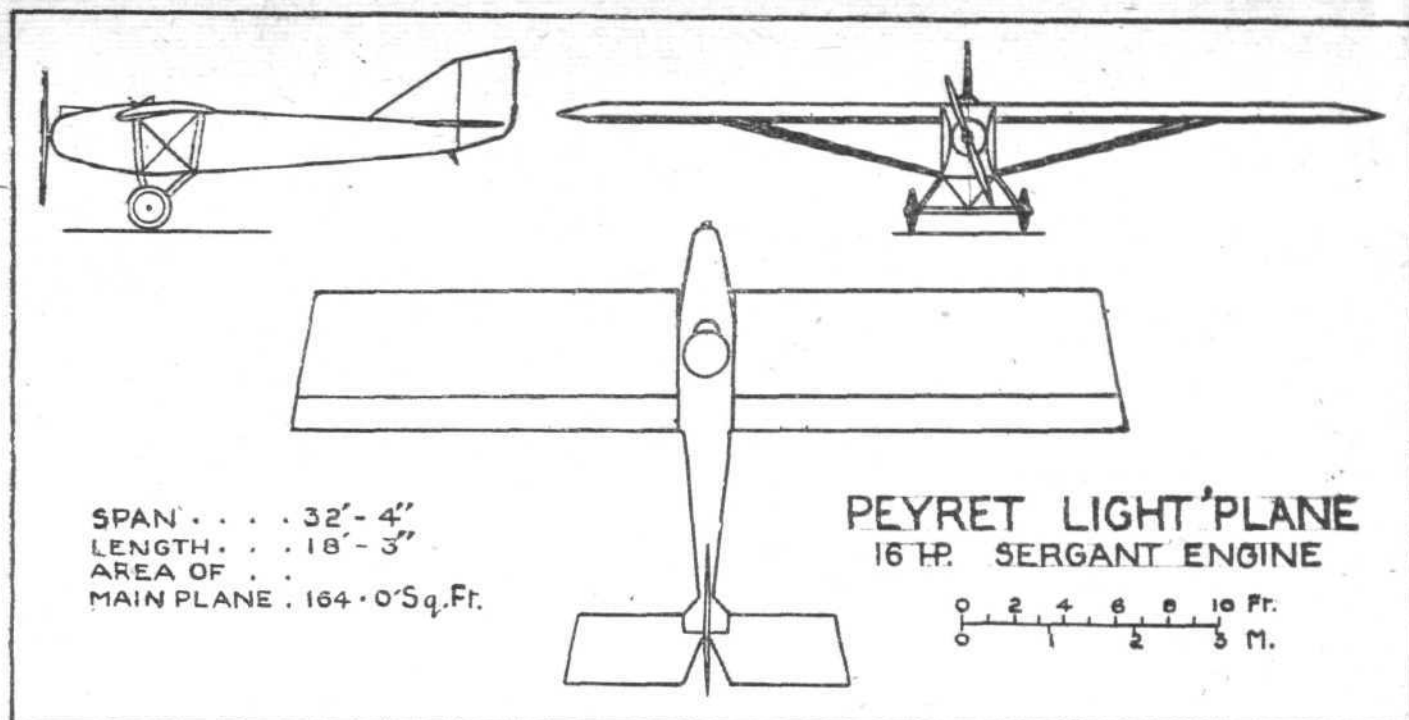
in the numerical order in which they are numbered in the competitions.

No. 1, the biplane entered by the Grigg Motor Company, is an unknown quantity at present, as the machine had not put in an appearance on Monday when we left the aerodrome. The machine is fitted with a Grigg engine, but this name does not suggest much more than does the name of the machine. No pilot has yet been nominated for No. 1.

No. 2, the Gnosselius "Gull," with 700 c.c. Blackburne engine, is a monoplane with "thin-section" wings, characterised by a "step" on the upper surface about one-third of the chord from the leading edge. The fuselage is a boat-built structure of circular cross section, and the engine is mounted in the centre of the wing and drives two pusher airscrews mounted on the wing. The machine was built



The Sayers-Handley Page monoplane, No. 26: This machine is fitted with a Blackburne engine. The very small monoplane wing is provided with front slot, slotted ailerons, and variable camber gear. The wing loading is about 8 lbs./sq. ft.



THE PEYRET MONOPLANE: General arrangement drawings. A Sergeant four-cylinder engine is fitted.

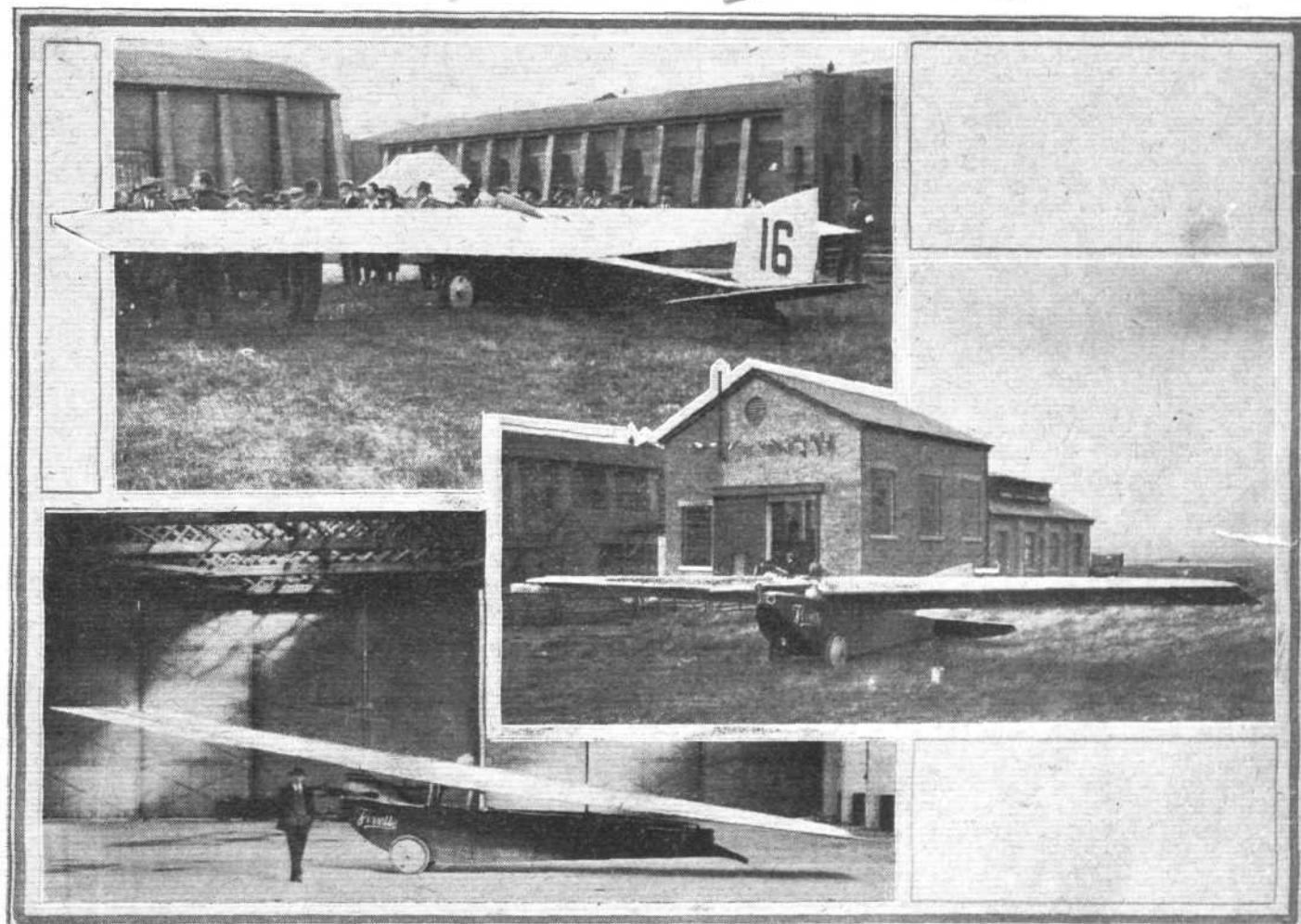
by Short Brothers of Rochester. (May 31, 1923.) Pilot: J. Lankester Parker.

No. 3, the "Wren," with 400 c.c. A.B.C. engine, is very similar to the machine originally designed by Mr. Manning and built by the English Electric Co. of Preston. The wing shows less dihedral angle, and the leading edge is more nearly straight. The pilot sits ahead of the wing, and the engine is mounted on a tubular structure, faired-in, on the nose of

the fuselage. The wheels are partly housed inside the floor of the fuselage. (August 23, 1923.) Pilot: Major Wright.

No. 4 ("Wren") is identical with No. 3. Pilot: Flight-Lieut. Longton.

No. 5, the Avro biplane, is characterised by wings of high aspect ratio, heavily staggered and placed far apart. The wheels are housed in the fuselage and the lower plane is very close to the ground. The engine is a V-type B. and H.



NO. 16, THE BELGIAN PONCELET LIGHT PLANE AT LYMPNE: Three-quarter front and rear views, and, below, the machine with wing stacked on top of the fuselage, ready for transport. The "Vivette," as No. 16 is called, is fitted with a four-cylinder Sergeant engine.

Constructors: A. V. Roe and Co., Ltd., Hamble. (October 4, 1923.) Pilot: Bert Hinkler.

No. 6, the Avro monoplane, is a pure cantilever structure, with the two halves of the wing growing from the sides of the fuselage, into which the roots of the wing spars project. The engine is a 700 c.c. Blackburne. Constructors: A. V. Roe and Co., Ltd., Hamble. (October 4, 1923.) Pilot: Bert Hinkler.

No. 7, the Gloucestershire "Gannet," is a biplane with folding wings. It is of standard design and construction, with V undercarriage and orthodox wing bracing. The engine is a vertical two-cylinder, two-stroke Carden. Constructors: The Gloucestershire Aircraft Co., Ltd., Cheltenham. (October 4, 1923.) Pilot: L. L. Carter.

No. 8, the de Havilland 53, is a low-wing monoplane with 750 c.c. Douglas engine. The wing is built in two halves, hinged to the fuselage and braced by a pair of V struts on each side. There is a V-type undercarriage. Constructors: The de Havilland Aircraft Co., Ltd., Stag Lane, Edgware. (September 27, 1923.) Pilots: Capt. de Havilland and Capt Broad.

No. 9, the Parnall "Pixie I," is a low-wing monoplane, somewhat similar to the de Havilland 53, but fitted with a 500 c.c. Douglas engine. The undercarriage consists of two sloping tubes, in the form of an inverted V, carrying the tubular axle. There is no springing beyond that provided by the flexibility of the tubes. The wing tips are very pointed. Constructors: Geo. Parnall and Co., of Bristol. Pilot: Capt. Norman Macmillan.

No. 10, the Vickers "Vigot," has been described as an ordinary aeroplane seen through the wrong end of a telescope. It is a standard biplane in miniature, with normal bracing, V undercarriage, etc. The engine is a 750 c.c. Douglas. Constructors: Vickers, Ltd., of Weybridge. (September 20, 1923.) Pilot: Capt. Cockerell.

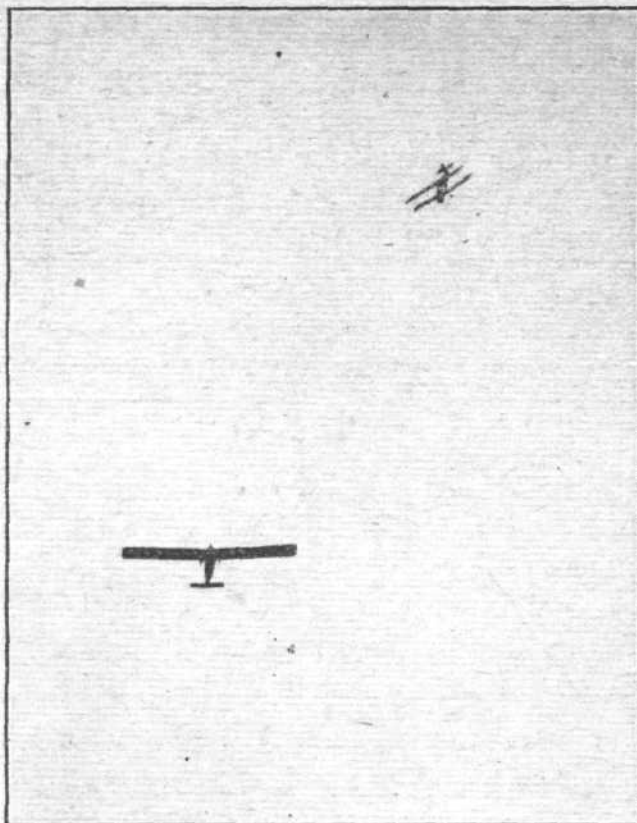
No. 11, the Avro biplane, is similar to No. 5 in every respect, except that the engine is a 500 c.c. Douglas. Constructors: A. V. Roe and Co., Ltd., Hamble. Pilot: Capt. Hamersley.

No. 12, the de Havilland type 53, is identical with No. 8. Constructors: The de Havilland Aircraft Co., Ltd., Stag Lane, Edgware. Pilot: Major Hemming.

No. 13, the Handasyde monoplane, is similar to the Handasyde glider built for Itford last year except for certain minor modifications. The pilot sits in a cut-out portion of the trailing edge of the wing. The engine is a 750 c.c. Douglas. Constructors: The Air Navigation and Engineering Co., Ltd., of Addlestone, Surrey. (September 20, 1923.) Pilot: F. P. Raynham.

No. 14, the "Hurricane," is a monoplane designed and built by members of the Royal Aircraft Establishment Aero Club, Farnborough, Hants. The machine has an area of but 80 sq. ft., and is expected to be very fast. It was designed for the competition for the £500 prize offered by Abdulla and Co. The engine is a special Douglas of 600 c.c. Pilot: Flight-Lieut. Bulman.

No. 15, the Peyret monoplane (French), is the same used by



Capt. Cockerell on the Vickers "Vigot" (No. 10) flying above one of the A.N.E.C. monoplanes (No. 17) at Lympne.

Maneyrol at Vauville. It is a straightforward monoplane with the wings braced by tubes. The engine is a four-cylinder Sergeant. Constructor: Louis Peyret. Pilot: Alex. Maneyrol.

No. 16, the Poncelet monoplane, is the work of a Belgian designer. It has cantilever wings of thick section, built in one piece. The fuselage is covered with mahogany plywood. Pilot: Baron de Lettenhove.

No. 17, the A.N.E.C. monoplane, has been designed by Mr. H. S. Shackleton for the Air Navigation and Engineering Co. of Addlestone. It is a high-wing monoplane with the wing constructed in two halves and braced by struts. The wing construction is remarkable for the fact that there is but a single spar, in the form of a triangular section, ply-wood covered box. This construction gives a wing that is remarkably stiff in torsion. The engine is a 700 c.c. Blackburne, mounted upside down in the nose of the fuselage. (March 29, 1923.) Pilot: J. H. James.

No. 18 is identical with No. 17. Pilot: Maurice Piercey.

No. 19, the Gnosspeliuss "Gull," is similar to No. 2. Constructors: Short Brothers of Rochester. Pilot: Rex Stocken.

No. 20, the Kingwell tandem monoplane, is somewhat similar to the Peyret glider used by Maneyrol at Itford last year. The engine is an A.B.C. Pilot: H. Sykes.

No. 21, the Poncelet monoplane, is very similar to No. 16, but its fuselage is fabric covered. Pilot: V. Simonet.

No. 22, the Peyret monoplane, is similar to No. 15, but the engine is a Douglas. Pilot: Alex. Maneyrol.

No. 23, the Sayers-Handley Page monoplane, is a pure cantilever monoplane of the glider type. The fuselage is of the "lozenge" shape in side view which characterised the Hannover "Vampyr," and the 500 c.c. Douglas engine is mounted on a "tower" rising from the nose of the machine. Constructors: Handley Page, Ltd., of Cricklewood.

No. 24, the Parnall "Pixie II," is similar to No. 9, but has smaller wings and a 750 c.c. Douglas engine. Constructors: George Parnall and Co., of Bristol. Pilot: Capt. Norman Macmillan.

No. 25, the Sayers-Handley Page monoplane, is somewhat similar to No. 23, but the nose of the fuselage is of different shape, and the engine is a 400 c.c. A.B.C. Pilot: C. Barnard.

No. 26, also a Sayers-Handley Page monoplane, is, perhaps, the most remarkable machine in the competition. It is a monoplane of very small area, carrying a wing loading of 8 lbs./sq. ft. The wing is provided with front slot, slotted ailerons and variable camber gear, so as to obtain low landing speed with high wing loading. With slots closed the machine is expected to be very fast. The engine is a 700 c.c. Blackburne. Constructors: Handley Page, Ltd., of Cricklewood. Pilot: G. P. Olley.

About Nos. 27 and 28 nothing is known at present.

The small general arrangement drawings published on pp. 618 and 619 show some of the machines entered. The drawings are all to a uniform scale, and thus give an excellent idea of the relative sizes of the various machines.

Items

AN early visitor to Lympne on Tuesday, October 9, was the Duke of Sutherland, who is the guest of Sir Philip Sassoon at Lympne. His Grace was met by Commander Perrin, and later conducted round the machines by the Director of Research, Brigadier-General R. K. Bagnall-Wild.

THE Air Minister, Sir Samuel Hoare, and Lady Maud Hoare will be present at the aerodrome tomorrow and Saturday, while His Royal Highness the Duke of York, who is visiting Lord Edward Grosvenor, will pay a visit to Lympne on the last day of the meeting, Saturday, October 13.

Second Day of the Meeting

ON Tuesday, October 9, the weather was extremely unfavourable for flying. Nevertheless, Major Hemming on No. 8, Hinkler on No. 6, and James and Piercey in turns on No. 17 added to their total number of laps. Major Hemming met with misfortune after being in the lead for total mileage. The crankshaft of his Douglas engine broke on the 31st lap.

Hinkler on the Avro monoplane was in the lead for total mileage on Tuesday evening with 46 laps (575 miles) to his credit. The A.N.E.C. monoplane, No. 17, was a good second with 42 laps (525 miles).

THE UNITED STATES AIR MAIL EXPERIMENTS

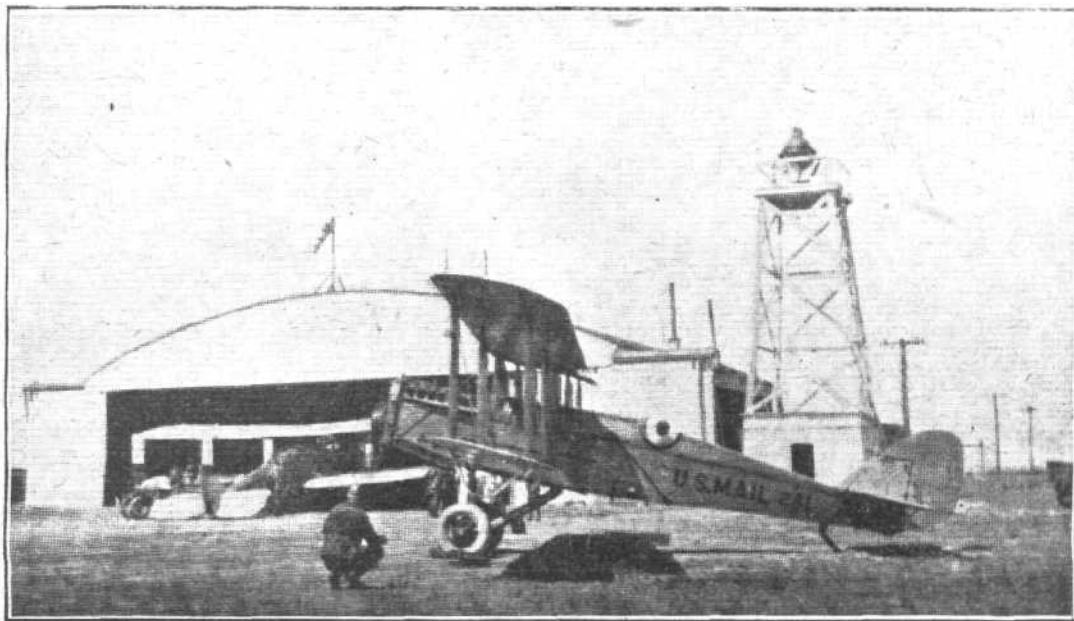
THE United States Air Mail Service carried out some very important, and it would seem highly successful, trials on August 21-24 inclusive for the purpose of demonstrating the practicability of 28-hour communication between the Atlantic and Pacific Coasts by relays of mail 'planes flying day and night. The route selected for these trials was the transcontinental air mail route between New York and San Francisco, *via* Bellefonte, Cleveland, Byran, Chicago, Iowa City, Omaha, N. Platte, Cheyenne, Rawlins, Rock Springs, Salt Lake City, Elko and Remo, a total distance of 2,680 miles, which has been in operation—by air during the day and by train at night—for 2½ years.

Daylight flying over this route had demonstrated that a thousand-mile flight from either ocean would carry the mail to the verge of the vast Mississippi Valley, whose plains and prairies offer countless landing fields for a thousand miles or so. This section, therefore, between Chicago and Cheyenne—a distance of 885 miles—was chosen for the night flying portion.

It was originally intended to extend the complete trials over a period of five days, but the fifth test was cancelled, as it was considered that sufficient data had been obtained from the first four days' work. Omitting the east and west-bound trips of the first day during which the machines experienced exceptional delays due to fog beyond the night flying area,

On the approach of dusk over the Chicago-Cheyenne section on August 21, the illumination of the first night airway was begun. At each of the 'dromes at Chicago, Iowa City, Omaha, North Platte and Cheyenne, 36-in. electric arc beacons revolved completely around the horizon three times a minute, casting a 450,000,000 candle-power beam 150 miles into the darkness. Another light of equal power flooded the runways of the field, in the centre of which, flush with the surface of the ground, but protected by an iron grill, was a piercing cluster of red lamps. Upon the roof of the hangar, so lighted as to be visible at a thousand feet or more, was a fabric cone, indicating to the pilot the direction of the wind and its velocity. Other buildings, radio towers and the boundaries of the entire reservation were all outlined from cables carried underground. At 34 points along the 885 miles way are emergency fields, ranging from 15 to 30 miles apart, and from each of these points an 18-inch incandescent electric beacon, mounted on a 50-foot tower cast a 5,000,000 candle-power beam completely around the horizon every 10 seconds. In between these points, at three-mile intervals, acetylene gas beacons of 5,000 candle-power flashed 150 times per minute.

During their flight over this night section the machines were in constant touch, by means of wireless, with the Air Mail Superintendents on the main stations, whilst the latter



The U.S. Night Air Mail Experiments. One of the mail 'planes (a converted D.H.) tuning up at Cheyenne aerodrome. In the background a Sperry 36-in. aerial beacon.

the remaining three west and three east-bound trips were flown in the average elapsed time of 28·25 hours, a remarkable approximation of the scheduled time of 28 hours, planned by the Air Mail officials for these experiments. Particularly conclusive were the night flights over the lighted airway between Chicago and Cheyenne. On this part of the route the pilots proved to the satisfaction of the most sceptical that, barring impenetrable fog or unusual storm, night-flying machines can be flown with almost the same clock-work precision as that maintained on the day services over the same route. The results obtained are all the more noteworthy when it is remembered that the machines employed were the standard day-flying 'buses—rebuilt D.H.'s with a comparatively high landing speed and other features which make them more or less unsuitable for night-flying work of this character.

From the results obtained it is concluded that with sufficient modern night-flying 'planes especially designed for the purpose (Aeromarine, Curtiss and Glenn-Martin machines have already been designed and built, about which we will have something to say later) there is every assurance that the air mail will be able to inaugurate and efficiently operate a regular day and night service between the Atlantic and Pacific Coasts, and soon reduce the schedule to 24 hours.

The record of the eight flights over the 2,680-mile route is as follows:—

	Westbound.		Eastbound.	
Aug. 21	34 hrs.	23 mins.	Broken trips due to daylight fog.	
" 22	29 "	44 "	27 hrs.	55 mins.
" 23	29 "	38 "	26 "	14 "
" 24	29 "	56 "	26 "	49 "

were also linked up by telephone with the emergency stations. The machines carried navigating lights on the leading edge of the lower wings, and were also equipped with a white light in the tail, so arranged to flash morse signals if necessary.

The following particulars regarding the lights and beacons used along the night route may be of interest. All along this route at intervals of three miles, there are 250 American Gas Accumulator Co. acetylene beacons, having a visibility of 8 to 12 miles, and flashing 150 times per minute. These A.G.A. beacons are similar to the aerial lighthouse employed at Croydon Aerodrome—that is, they are entirely automatic in operation, being fitted with a sun valve which is sensitive not only to the direct rays of the sun, but to indirect daylight as well. At nightfall the lights normally begin to function, but should the sky become darkened, owing to fog or storm, the valve will also come into action and light up the beacon. Of course, on the reappearance of daylight the valve extinguishes the light. The A.G.A. Aerial Lighthouse and Sun-valve was fully described in *FLIGHT* for April 21, 1921.

In addition to these short range beacons, the A.G.A. Co. has also installed over 100 acetylene field limitation lights, one being placed at each corner of the emergency landing fields. These are known as the rapid flash type, showing a light 250 times per minute. There is also, at Omaha aerodrome, one of the A.G.A. day and night ground wind indicator T's (described in *FLIGHT* for May 11, 1922).

The five great Sperry Beacons located at Chicago, Iowa City, Omaha, North Platte, and Cheyenne, radiate a 450,000,000 candle-power beam for a radius of 150 miles. All the pilots who have thus far flown the night route have been able to pick up the beam at distances in excess of 100

miles, and some of them have been so certain of their course as to assert that all intermediate lights were unnecessary. Arc lights of similar power are used at each of the main fields mentioned, for flood lighting when landings are actually taking place. The Sperry beacons have three-foot lenses, and they are similar to the anti-aircraft search-lights employed in London and Paris during the War.

The source of light for these beacons is an electric arc consuming 150 ampères at 110 volts (d.c.). The tremendous

intensity of the light is obtained from a gas which is generated and confined in a small deep crater of the positive carbon—a discovery of great value made by Elmer A. Sperry. The quality of light and its intensity are, in proportion, about the same as that given off by the noon sun on a clear day, the volume of the light, of course, being infinitely less. It is the quality of the light, being rich in the blue-white rays, that accounts for its remarkable penetration, especially upon very dark or misty nights.

AIRCRAFT AND THE NAVY

ADMIRAL OF THE FLEET SIR F. C. D. STURDEE last week, lecturing before the Royal United Service Institution upon naval matters, naturally had some remarks to make upon the much-discussed subject of aircraft in association with the Navy. He said he would like to ask the extreme air and submarine advocates how, if in the future a fleet came round Cape Horn, we could adequately take care of our beef and wheat ships from the Argentine. Turning to the two new menaces to the surface vessel—the submarine and aircraft—he denied that against a properly protected moving fleet the submarine could attack with success, and added that anti-submarine devices were becoming increasingly effective, while the “bulges” now being fitted to battleships were proved to be most successful, enabling such ships to keep in the line even after several hits from torpedoes. Safe anchorages, however, were essential.

Aircraft had great potentialities, but for ocean use they had their limitations, due to the comparatively short radius of action. Aircraft-carriers became necessary, and these vessels were largely unprotected ships, vulnerable to attack from the air, the surface, and from the sub-surface. The greater importance the enemy attached to their destruction the more difficult became the problem of their protection, therefore powerful vessels and efficient screening vessels were required to keep them afloat. Aircraft increased the range of vision of a fleet in clear weather and daylight, and, further, increased the effective range of the gunfire, of the powerfully armed vessel; but this required well-

trained and experienced observers—seamen, in short. The lecturer did not conceal his doubts as to the efficiency of relationship of the Navy and the Air Force as recently decided by the Cabinet. Bombing of large ships from the air had not, he thought, reached a high degree of accuracy from heights suitable to secure penetration, but the possible mining effects from close misses must not be lost sight of. Anti-aircraft guns on modern ships, however, were developing an intensity of fire many times greater than the most intense fire on any part of the western front during the War.

With long communications such as the British Empire possessed cruisers were most important, and the lecturer expressed doubt as to whether aeroplanes could replace them, and though airships might be of great use their vulnerability to aeroplane attack was a great disadvantage. In his conclusions Admiral Sturdee stated that because the United Kingdom was becoming yearly less self-contained and our Empire was vastly widespread it was peculiarly vulnerable to attack; therefore it was of vital importance to our Commonwealth of nations that all reasonable means should be taken to ensure that those communications should not ever be severed. Cruisers were as necessary as ever in our naval history, and to ensure our security we must possess more cruisers than any other single Power. The air weapon and the submarine were menaces to every type of surface vessel, therefore they must be closely studied, for the war in the future would be in three planes—surface, sub-surface and in the air.

FRENCH AIRSHIP'S RECORD VOYAGE

THE French rigid airship “Dixmude”—the ex-Zeppelin L.72—in her remarkable flight during the last week in September has created a world's record for endurance, beating the previous record of 108 hrs. 12 mins. made by the R.34 on the occasion of its Atlantic trip. The “Dixmude” remained in the air for 118 hrs. 41 mins., and covered a distance of about 4,400 miles. Leaving Cuers-Pierrefeu, near Toulon, at 7.55 a.m. on September 25, the “Dixmude” flew to Toulon and Marseilles, and then, leaving the French coast, made for the Balearic Islands. Thence the journey was continued to Algiers, and along the northern coast of Africa to Bizerta. Continuing the next day the airship turned inland as far as Tuggurt in the Sahara desert, by way of Sousse, Sfax and Gabes on the coast.

On Thursday the return flight across the Mediterranean was commenced, but over Sardinia a severe storm was encountered, and the “Dixmude” was forced to return towards Bizerta. A second attempt was made the following day and successfully accomplished, this time the airship passing over Sardinia and Corsica to Marseilles. From here the journey was continued to Bordeaux, and Paris was reached at sunrise on the Saturday. She then circled round about Paris, flying over the “Republique” memorial—which had been unveiled by M. Laurent Eynac the previous day—in honour of the victims of this sister craft. (The “Republique” was destroyed on September 25, 1909.) By this time fuel was becoming exhausted, so the “Dixmude” turned towards her base at Cuers-Pierrefeu, which was reached at 8 o'clock in the evening. There still being sufficient fuel left, an immediate landing was not made, however, and after a quick visit to Nice and back, the “Dixmude” eventually landed at 6.30 on Sunday morning. The “Dixmude” was commanded by Naval Lieut. Plessis de Granadan.

The “Dixmude” was built in 1918, with a length of 743 ft. and a capacity of 2,250,000 cub. ft. Its useful lift is 36 tons, the speed 70 m.p.h., and it has six engines of 260 h.p. each. It is reported that towards the end of November another big cruise will be attempted; when the “Dixmude” will make a flight of 6,000 miles across Morocco, the Sahara, and Algeria,



FRENCH AIRSHIP'S RECORD FLIGHT: Sketch-map showing the course taken by the “Dixmude” during her 4,400 mile trip, lasting 118 hrs. 41 mins.

THE ROYAL AIR FORCE

London Gazette, October 2, 1923

General Duties Branch

L. V. H. G. Clark is granted a short service commn. as Pilot Offr. on probation, with effect from, and with seny. of, Sept. 24.

The following are transferred to Reserve, Class A.—*Flight Lieut.*—H. B. Pett, M.C.; Oct. 4. *Flying Offrs.*—I. C. G. Simpson; Sept. 28. W. L. Rivett-Carnac, M.B.E.; Oct. 1.

Flight Lieut. W. P. Groves resigns his permanent commn. and is granted rank of Sqdn. Ldr.; Sept. 26. *Wing-Commndr.* C. R. J. Randall, C.B.E., is placed on retired list on account of ill-health, and is granted rank of Group Capt.; Oct. 4.

Stores Branch

Flying Offr. C. L. P. Mullany is granted a permanent commn. for accountant duties; Oct. 3.

Medical Branch

Flying Offr. J. D. Leahy, M.B., B.A., is promoted to rank of *Flight Lieut.*; Oct. 4.

Reserve of Air Force Officers

The following are granted commns. on probation in General Duties Branch in ranks stated, with effect from the dates indicated:—

Class A.—Flying Offr.—N. H. Woodhead, D.S.C.; Oct. 1.

Class B.—Flying Offrs.—G. G. Green, F. Tymms, M.C.; Oct. 1. *Pilot Offr.*—G. Fitz-Gerald Atkinson; Oct. 1.

Class BB.—Pilot Offr.—C. A. Jamblin (substituted for Gasdte, Sept. 18); Sept. 18.

The commns. on probation of the following officers are terminated on cessation of duty, with effect from dates indicated:—

Class A.—Flying Offr.—A. E. Morgan; Sept. 5. *Pilot Offr.*—W. G. A. Freke; Aug. 17.

Princess Mary's Royal Air Force Nursing Service

Miss N. M. M. B. Brown resigns her appt. as Staff Nurse; Oct. 4.

Memoranda

The permission granted to *Lieut.* J. H. H. Brunt to retain his rank is withdrawn on his enlistment in the Army; Sept. 6.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

Stores and Accountants Branch

Squadron Leaders: W. J. Waddington, O.B.E., to No. 1 Stores Depot, Kidbrooke; 8.10.23. P. A. Simmons to Central Accounts Office, Poona; 21.9.23. W. G. W. Prall to Sch. of Tech. Training (Men), Manston; 23.9.23.

Flying Officers: R. H. Latham to No. 4 Stores Depot, Ruislip; 15.10.23. H. C. Haywood-Gibbons to Marine and Armament Experimental Estab., Isle of Grain; 8.10.23. E. J. Grout to R.A.F. Base, Calshot; 27.9.23.

H. C. P. Ellis to No. 4 Stores Depot, Ruislip; 27.9.23.

Pilot Officer: G. Bucknall to H.Q., Cranwell; 26.9.23.

Medical Branch

Squadron Leaders: W. A. S. Duck, O.B.E., to Headquarters, Palestine 14.9.23. J. M. A. Costello, M.C., M.D., M.Sc., to Baghdad Combined Hospital, Iraq; 1.9.23.

Flight Lieutenants: A. F. Rook, M.R.C.P., D.P.H., to No. 1 School of Technical Training (Boys) Halton. 19.9.23. D. G. Boddie, M.B., to R.A.F. Depot (Non-effective Pool). 12.8.23, on transfer to Home Establishment.

T. Montgomery, M.B., D.P.H., B.A., to Research Laboratory and Medical Officers' School of Instruction, Hampstead. 1.10.23. A. E. Jenkins to No. 2 Squadron, South Farnborough. 14.9.23. C. A. E. I. Brownlee, M.B. to School of Photography. 17.9.23. T. M. Walker to Headquarters, R.A.F.

Trans-Jordan, Palestine. 20.8.23. A. W. Comber to Research Laboratory and Medical Officers' School of Instruction, Hampstead. 13.9.23, on appointment to a Temporary Commission, for short course of instruction. O. Armer (Dental) to Marine and Armament Experimental Establishment, Isle of Grain. 25.9.23. J. A. Musgrave, D.P.H., F. E. Johnson, J. A. Quin, M.D., B.A., all to Headquarters, Palestine. 14.9.23. J. G. F. Heal, M.D., D.O.M., and S., to Headquarters, Iraq. 14.9.23. A. Williams (Dental) to Headqrs., Iraq. 14.9.23. T. J. Thomas, M.B., to Baghdad Combined Hospital, Iraq; 10.8.23. P. J. Flood to Basrah Combined Hospital, Iraq; 16.8.23.

R. Boog-Watson, M.B., D.P.H., to Baghdad Combined Hospital, Iraq; 12.8.23. C. P. Barber to R.A.F. Depot; 9.10.23. H. H. R. Bayley to Armament and Gunnery Sch., Eastchurch; 4.10.23.

Flying Officers: F. K. Wilson, M.B., to Special Duties List. 8.8.23, on appointment to a Short Service Commission. Seconded to House appointment at Civil Hospital. L. P. McCullagh, M.B., to Research Laboratory and Medical Officers' School of Instruction, Hampstead. 7.9.23, on appointment to a Short Service Commission for short course of instruction. L. P. McCullagh, M.B., to R.A.F., Central Hospital, Finchley. 18.9.23. W. B. Stott to Headquarters, Palestine. 14.9.23. V. S. Ewing, M.B., to Headquarters, Iraq. 14.9.23. Q. Mstr.—W. Gamblen, W. King, both to Headquarters, Iraq. 14.9.23.

Chaplains' Branch.

Rev. W. T. Rees to Headquarters, Egypt. 14.9.23.

CORRESPONDENCE

The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.

SAFETY IN FLYING

[2070] I notice in last week's *FLIGHT* a letter from Capt. Geoffrey de Havilland concerning the one golden rule of "keeping above minimum speed whatever happens." I think he has unquestionably touched on the only point which really matters, and if only more pupils would stick to it there would, I think, be far fewer accidents.

I was taught to fly by one Percival Fraser, and he drummed this rule so much into my head that I almost dreamed about it. He was, unhappily, killed in 1916, through a breakage in his machine, but I have always had reason to thank him for instilling this necessary point into my head when a pupil. I have had numerous minor accidents, some entirely my own fault, but no very serious ones, solely, I believe, through remembering to keep flying speed. Many a time in a tight corner I have kept my speed whatever happened to be in front of me, and the resulting crash has not been half so bad as it would have been had I forgotten that rule. I have almost invariably found the A.S.I. to be sufficiently accurate to keep the machine out of trouble, but as I became more proficient I used to fly by the "feel," and then perhaps occasionally check myself by the instrument. In fact, it used to be quite good fun to try and guess the exact speed and then check it.

As Capt. de Havilland points out, the danger attending loss of flying speed will always be present despite any improvements in design, and until the rule which he suggests is thoroughly instilled into every pupil at the start flying will be dubbed "unsafe" owing to many unnecessary accidents.

ALAN H. CURTIS, Capt.

Golders Green.

[2071] With reference to Capt. De Havilland's letter in your issue of the 4th inst., might I suggest that it would help matters if the stalling speed of the machine (or a speed rather higher) were recorded on the A.S.I.

This might be done by having a thick line (a red one would probably be best) which coincided with the pointer at the minimum safe flying speed; or the whole sector of the dial below the minimum speed might be red; or the sector below the minimum might be covered over, scale and all, with, say,

red paper, so that the only reading obtainable would be "danger"; or, if the dial is black and the pointer white, the danger sector might be white, so that the pointer is not noticeable; or, again, the glass in front of the danger sector might be obscured so that the pointer disappears. The red sector seems best, and, although it does not overcome the difficulty of a pilot ignoring the A.S.I., it should make the loss of flying speed more easily noticed.

W. E. GRAY

Berwick-on-Tweed

[2072] I was very interested in Capt. De Havilland's letter, with regard to the maintenance of safe flying speeds, appearing in your last week's issue. Coming from such a source, it is worthy of very careful consideration by all pilots.

I venture to put forward the following methods, used in piloting D.H. 4, 9, and 9A types, with moderate success over a number of years.

The actual take-off of a machine depends, of course, on the area available and the load, but whether it is pulled off or allowed to float off, the nose should be held down immediately the wheels are clear, then the adjustable tail-plane trimmed until the machine is slightly nose-heavy. The result is a safe margin of speed attained very quickly, and if necessary a turn near the ground can be executed without danger.

As regards coming in to land. It is advisable to get all little jobs, such as trimming the tail plane and changing over to gravity, done *before* the engine is throttled down. The pilot can then give his full attention to the maintenance of a safe gliding speed, which I would suggest be about 16 per cent. below cruising speed. A constant check should be kept on this by the A.S.I., especially when turning.

Provided a pilot has sound judgment there should be no difficulty in effecting a good landing, and by taking fullest advantage of an aerodrome's boundaries, a machine can be pulled up within a reasonable distance. The methods described are not spectacular, and may be considered by some as indifferent flying, but their safety has been proved.

R. W. JACKSON,

F./O. Royal Air Force, Res.

Manchester



By DOUGLAS B. ARMSTRONG

Swiss Military Mail Flight

IN connection with a military aviation day held at Basle on September 2, an aeroplane carrying mail flew to Zurich. Correspondence carried on this trip was prepaid in the normal Swiss air post stamps, but bore in addition a circular rubber handstamp reading "Militar Flug tag Basel 2.1x.23."

French Semi-Official Air Stamps

To the list of semi-official air-post stamps issued under the auspices of various aviation meetings in that country has just been added a set of six values depicting an aeroplane in flight and used on September 2 at an aerial rally at Montpellier. These semi-official vignettes are used with the full sanction of the Ministry of Posts to denote a supplementary fee upon correspondence conveyed by air, but are not in themselves capable of prepaying postage to destination, which is accordingly defrayed by regular postage stamps of the Republic. The denominations issued at Montpellier were 25, 50, 75 centimes, 1, 2 and 5 francs, and they were cancelled with a special obliteration reading "MONTPELLIER—AVIATION."

Scarce "Waterplane" Cards

MANY readers may recall the *Daily Mail* waterplane tour of British coast resorts organised in conjunction with the Grahame-White Aviation Company, Ltd., in the summer of 1912, but how many possess examples of the souvenir postcards carried by the 70 h.p. Henry Farman waterplane on that occasion? Months of diligent search on the part of a well-known air stamp enthusiast have brought to light less than half a dozen copies, and it seems that few people troubled to preserve these mementoes of one of the earliest experimental air posts in Great Britain. They consist of ordinary post or picture postcards, impressed with a rubber stamp device in purple ink in the form of a square, double-lined frame, enclosing a sketch of a waterplane above the inscription "Carried by *Daily Mail* Waterplane—Promoted by the Grahame-White Aviation Co., Ltd." The cards were prepaid with contemporary British postage stamps, and conveyed by the waterplane from one seaside town to the next, where they were posted in the normal way. Although the waterplane post was entirely unofficial, specimens of the cards used are in considerable demand by aero-philatelists.

Notes and News

THE German air post stamps in the Futurist "Taube" design are all obsolete as a result of a twenty-fold increase in postage rates, which came into force last month. A new series with greatly enhanced denominations is reported to be in course of preparation by the State Printing Works at Berlin.

It is not generally known that Ireland has its own air post stamp, or rather label, resembling that used by the British post office, but inscribed "Post Aer" (in Gaelic and "By Air Mail" in English); colour, dark blue.

An offer by a German firm to supply the Norwegian Government with 50,000 air post stamps for use in the service between Christiania, Goteborg and Hamburg in return for a concession of four-fifths of the issue for sale to collectors, was declined with thanks!

The popular fallacy that a large part of the unique sheet of 24 cents United States air post stamps with inverted centre was lost in the sinking of the owner's yacht is dispelled by a personal letter from Colonel Green, wherein he declares that not a single stamp went down, and every one of the 100 copies is in existence today.

Readers are invited to forward to the Editor of *FLIGHT* letters, etc., bearing aerial stamps or postmarks for mention in this column, as well as out-of-the-way varieties, etc.

We shall also be pleased to hear from correspondents interested in air-stamp collecting, and to answer any queries.

THE SOCIETY OF MODEL AERONAUTICAL ENGINEERS (London Aero-Models Association)

At the Council Meeting held on October 1, it was decided to transfer the Headquarters of Society of Model Aeronautical Engineers to the Y.M.C.A. Building, Tottenham Court Road, London, W.C. 1. It was also decided to have meetings once a fortnight. Dates and particulars will be given later.

Those members who are desirous of visiting Lympne should get into communication with Mr. W. E. Evans, of 77, Swindon Road, Wembley, at once.

Dr. A. P. Thurston, Major C. C. Turner, Mr. A. F. Houlberg, Mr. W. E. Evans and Mr. B. K. Johnson, have kindly consented to give a lecture before the Society. Dates will be published shortly.

Anyone who is desirous of giving a lecture should communicate at once to the Hon. Sec., A. E. Jones, 48, Narcissus Road, West Hampstead, N.W. 6.

A. E. JONES, Hon. Sec.

PUBLICATIONS RECEIVED

U.S. National Advisory Committee for Aeronautics. Report No. 160.—An Airship Slide Rule. By E. P. Warner and S. F. Pickering. Report No. 161.—The Distribution of Lift over Wing Tips and Ailerons. By David L. Bacon. Report No. 165.—Diaphragms for Aeronautic Instruments. By M. D. Hersey. Technical Note No. 146.—The Fairing of Airfoil Contours. By E. P. Warner. Technical Note No. 148.—The Flexible Mounting of an Airplane Engine. By K. Kutzbach. Technical Note No. 150.—Notes on the N.A.C.A. Control Force Recorder. By H. J. E. Reid. Technical Note No. 151.—Tests on Built-up Airplane Struts having Initial Tension in Outside Fibres. By T. A. Schwamb and C. S. Smith. Technical Note No. 152.—Thrust and Power required for Climbing. By Georg Koenig. Technical Note No. 153.—Flight Characteristics. By Capt. Student. Technical Note No. 154.—An Instrument for Recording the Position of Airplane Control Surfaces. By K. M. Ronan.

Catalogues

Bibliotheca Aeronautica. A Descriptive Catalogue of Books and Engravings illustrating the Evolution of the Airship and the Aeroplane. No. 387, 1920. Maggs Bros., 34-35, Conduit Street, New Bond Street, London, W.

Bibliotheca Aeronautica, Part II. No. 435, 1923. Maggs Bros., 34-35, Conduit Street, New Bond Street, London, W.

The British Acetylene and Welding Handbook. London: The Acetylene and Welding Journal, 30, Red Lion Square, Holborn, W.C. 1. Price 7s. 6d. net (postage 6d. extra).

Technical Memorandums of the U.S. National Advisory Committee for Aeronautics. No. 214.—The "Turkey Buzzard" Glider. June, 1923. National Advisory Committee for Aeronautics, Washington, D.C., U.S.A.

Calendar, September, 1923, to August, 1924. The British Aluminium Company, Ltd., 109, Queen Victoria Street, E.C. 4.

The Secret of the Desert. By C. C. Turner. London: Messrs. Hurst and Blackett, Ltd., Paternoster House, E.C. 7s. 6d. net.

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